

**A CLINICAL STUDY ON STANDARDIZATION OF  
SIDDHA DIAGNOSTIC METHODOLOGY,  
LINE OF TREATMENT AND DIETARY REGIMEN FOR  
“ATHITHOOLA ROGAM”  
(OBESITY)**

***Dissertation submitted to***

**THE TAMILNADU Dr. M.G.R MEDICAL UNIVERSITY**

**Chennai-32**

***For the partial fulfillment of the requirements to the Degree of***

**DOCTOR OF MEDICINE (SIDDHA)**

**(Branch V - PG - NOI NAADAL)**



**DEPARTMENT OF NOI NAADAL  
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**2016**

**GOVT SIDDHA MEDICAL COLLEGE & HOSPITAL, PALAYAMKOTTAI.**

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I hereby declare that this dissertation entitled **“A Clinical Study on Standardization of Siddha Diagnostic Methodology, Line of Treatment and Dietary Regimen for “Athithoola Rogam” (Obesity)** is a bonafide and genuine research work carried out by me under the guidance of **Dr. S. Sundararajan MD(s), Assistant Lecturer, Post Graduate Department of Noi Naadal, Govt. Siddha Medical College & hospital, Palayamkottai** and the dissertation has not formed the basis for the award of any Degree (other than MD Siddha), Diploma, Fellowship or other similar title.

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We approve the trial to be conducted in its presented form.

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## INTRODUCTION

The Siddha system of medicine (traditional Tamil system of medicine) which has been prevalent in the ancient Tamil land is the foremost system of medicine among medical systems in the world. It is believed the origin of Siddha system of medicine dates back to B.C 10,000 - B.C 4,000. According to the origin of the medical systems, it is very clear that, the Siddha system of medicine was prime medical system in the world.

It is well known by the version,

”அண்டத்தில் உள்ளதே பிண்டம்  
பிண்டத்தில் உள்ளதே அண்டம்  
அண்டமும் பிண்டமும் ஒன்றே  
அறிந்துதான் பார்க்கும் போதே.”

- சட்டமுனிஞானம்.

”உடற்காதாரமொன் பஞ்சபூதப்  
பஞ்சீகரணப் பான்மையாமெனவும்.”

The verse stated the universe is also made up of the same.

The universe consists of five elements and these elements should not be confused with the elements of modern chemistry. They are primordial elements. They are *Mann* (sand), *Neer* (water), *Thee* (fire), *Vayu* (air), and *Akasam* (ether). All created and evolved matter in the world as animals, plants and minerals scheduled under these categories. In addition human anatomy and physiology, the causative factors of disease, the materials for the treatment and cure of diseases, the food for the sustenance of the body are covered by the five elemental categories. This is the working hypothesis.

*The equilibrium of humours is considered as health and its disturbance or imbalance leads to a diseased stated by saint Thiruvalluvar in his Thirukural,*

”மிகினும் குறையினும் நோய்செய்யும் நூலோர்  
வளிமுதலாண்ணிய மூன்று.”—குறள் 941

“Three things beginning with wind, say experts  
In excess or lacking cause disease” – kural 941

Life is the valuable possession for all human beings and it depends mainly on health. Health is considered as our wealth. Without health, we cannot enjoy even the nature.

When we say that the body is not in good health, it means not only the physical body but also the intellectual and spiritual mind is ill. It can be explained with a small example. If we see a naturally attractive beautiful, pleasant scene our mind automatically gets fresh and seems as if our body is also brisk, because the mind tunes up the body. When the natural mind and body gets disturbed, it leads to a disease. It is pointed by *Tholkappiyar* as,

”பையுளும் சிறுமையும் நோயின் பொருள்.”

- தொல்.உரி.341

Mean suffering and depression denotes a disease.

”மதித்திடற் கருமை வாய்ந்த மாண்பரி கார மெல்லாந்  
துதித்திட வுணர்ந்தா னேனுந் துகளறப் பிணியின் றன்மை  
பதித்திட வுணரா னாகிற் பயனுறா னாகா லானே  
விதித்திடு பிணித்திறத்தை விளம்புது முதற்கண் மண்ணோ.”

- சிகிச்சா ரத்ன தீபம்.

Disease affects an individual based on the immunity, dietary and personal habits, climatic and environmental factors etc. Treatment is success if only the basic pathology behind the disease is well diagnosed.

The disease can be diagnosed based on eight entities.

”மெய்க்குறி நிறந்தொனிவிழிநா விருமலம் கைக்குறி.”

- தேரையர் நீர்குறி நெய்குறி.

The observations are based on skin and its abnormalities, colour variations, speech and its abnormalities, eye and its variations, tongue and its variations, urine and motion. The last two are the excreta and its variation from the normal constituents, colour, frequency and odour.

**‘Face is the index of the mind’, as like these eight entities are the index of a disease.**

”நோய்நாடி நோய்முதல் நாடி அதுதணிக்கும்

வாய்நாடி வாய்ப்பச் செயல்”- குறள் 948

The words *Noinaadal*, *Noi Mudalnaadal* in the ancient texts denotes the approach to disease and determination of the aetiology of the disease. Siddha concept for diagnosis is to investigate the cause of

the disease, the signs and symptoms, complications and pathological tissue changes. The *saints* (*siddhars*) look at the body and disease together to get conclusion regarding the condition or diagnosis of the case. This condition is an essential pre-requisite for treatment. In addition, eight important factors are to be ruled out. They are pulse, touch, tongue, colour, speech, eyes, faeces and urine. The five elements of the body and their life factors; the five elements of the body (*pancha bhootas*) and *Vatham*, *Pitham*, and *Kapham* are widely described by *saints* (*siddhars*) who classified the diseases into 4448 varieties. The aetiology, signs and symptoms and treatment were explained for all the variety of diseases by *saints* (*siddhars*). Medicines should be prepared according to individual needs separately.

Nowadays the habits of taking abundant of fast food, lead to many diseases. In addition the sedentary life style adds its part in getting complications soon.

”உணவே மருந்து மருந்தே உணவு.”

First and foremost need to regulate the food habits. *Food is the basic building material of the human body and gets processed into humours, tissues and wastes.* If anyone to get a disease frees healthy life to follow the *pini anuga vithi muraigal* (the preventive measures throughout the life time).

Nature is the primary and secondary cause for the human body. Human activity towards against the nature, it causes diseases. Author has chosen one such disease ***Athithoola rogam***. *Athithoola rogam* is one of the disease that occur in *Kozhuppu thaathu*, one of the 7 *Udal thathukkal*. It is characterized by excessive accumulation of fat in the body.

#### **The World Health Organization (WHO) listed,**

- In 2014, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 600 million were obese.
- Overall, about 13% of the world's adult population (11% of men and 15% of women) were obese in 2014.
- In 2014, 39% of adults aged 18 years and over (38% of men and 40% of women) were overweight.
- The worldwide prevalence of obesity more than doubled between 1980 and 2014.

In 2013, 42 million children under the age of 5 were overweight or obese. Once considered a high-income country problem, overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings. In developing countries with emerging economies (classified by the World Bank as lower- and middle-income countries) the rate of increase of childhood overweight and obesity has been more than 30% higher than that of developed countries.

Overweight and obesity are linked to more deaths worldwide than underweight. Most of the world's population live in countries where overweight and obesity kill more people than underweight (this includes all high-income and most middle-income countries).

The 21st century, every person is running behind life's goal. There is no time to think and follow the good life style for the healthy life. In addition failure to follow the proper *Naal ozhukkam*(daily routine), *Kaala ozhukkam*(Seasonal regimens), dietetic rules and regulations. These food patterns and mercenary artificial life-style leads a person to get many diseases. *Athithoola rogam* is one of the most effective disease which affect someone social, physical and mental features. The management of this disease is merely insufficient in other systems of medicine and patients are continuously looking with a hope towards *Siddha system of medicine* to overcome this challenge.

*Athithoola rogam* is one of the 10 top selected risk diseases. The incidence of Diabetes mellitus, hypertension, angina pectoris, and myocardial infarction are higher among the obese individuals. It is frequently blamed on ingestion of heavy and over food, endocrine factors, body built or heredity etc. BMI (Body Mass Index) more than 27 indicate increasing risk of health. Treatment of *Athithoola rogam* is difficult without the cooperation of patient. Patient's motivation is essential in the treatment.

Further, *Athithoola rogam* among children and adolescents too is rising rapidly. The phenomenon in South Asians has characteristic features - high prevalence of abdominal obesity, with more "intra-abdominal and subcutaneous adiposity." Childhood *Athithoola rogam* is one of the most serious public health challenges in this 21st century. Overweight children are likely to become obese adults. They are more prone than non-overweight children, to develop diabetes and cardiovascular diseases at an earlier age, which in turn associated with a higher chance to death and disability.

So author prefer this dissertation topic with great interest, to detect this disease at an early stage and do precautions before the arrival of this disease.

This Dissertation deals with the basic principles of Siddha medicine, the aetiology, pathology and pathogenesis of the disease and its diagnostic methods, line of treatment and dietary regimen in the disease *Athithoola rogam*.

## AIM AND OBJECTIVE

“**Athithoola Rogam**” disease present in most of the population in all the age and increased by the life style modification. The patients are disturbed both functionally and psychologically. The number of affected patients is also getting increased. So the author selected **Athithoola Rogam** as dissertation subject and also the author hope present study will help the patients and also researchers in the near future.

### AIM

To standardize and document the Siddha diagnostic methods, line of treatment, dietary regiments of *Athithoola rogam*.

This being a preliminary endeavour by the author, so that it would be helping hand to the sufferers with this view this dissertation subject was taken.

### OBJECTIVES

#### Primary objective:

- ❖ To study the clinical course of the disease “**Athithoola Rogam**” with keen observation based on the Etiology, Pathology, Diagnosis, Prognosis, Complications and the Treatment by marking use of siddha concept.
- ❖ To interpretation the unique diagnostic method mentioned by siddhars to know how the disease “**Athithoola Rogam**” alters the normal conditions in *Envagai Thervugal*.
- ❖ To have an idea about the incidence of the disease with Age, Sex, Socioeconomic status, Habit, Family history and climatic condition.

#### Secondary objective:

- ❖ To document the changes of 7 *Udalthathukkal*, *yakkaiilakkanam* and *manikadainool* on the diagnosis of *Athithoola rogam*.
- ❖ To frame a diagnosis method based on *Iympulliykka Vithi* (Panchapatchi) of *Athithoola rogam*.



### A. SIDDHA ASPECTS

Athithoola rogam is included one among 4448 diseases in Siddha system. Even though this disease is not included in yugi's classification, there are evidences of usage of the term "Athithoola rogam" by other names of the disease such as "Parunthoola rogam".

“பாண்டு வெண்குட்டம் பருந்தால் நோய் சோபை

மாண்டிட செய்யுமந்தம் காமாலைகுன்மம் - பூண்ட

பெருந்தாது நட்டமும் போம் பேதி பசியுண்டாம்

கருந்தாது நட்டமிடுங்கால்.”

- குணபாடம் தாது வகுப்பு.

When we keenly notice the two words sobai and parunthoolam which occurs due to the deficiency of iron as per the above lines, it is very clear that these are separate entities, where "Athithoola rogam" is increase in body mass and sobai is accumulation of fluid in body tissue.

#### As per Anubava Vaithiya Deva Ragasiyam

தேகத்தில் சுபாவமாக இருக்கின்ற மாமிச பேதங்கள் அதிகரித்து வளருங் காரணத்தால் சரீரம் பருப்பதுமின்றி ஸ்தனமும், வயிறும், தொடையும், பிரமாணமின்றி பருத்து அசைவற்று கடினமாய் இருக்கும். இதனால் சந்தோச முதலிய சவுக்கியங்களும் அறிவும் குறைதல், நடந்தால் அவ்விடங்களில் சதைகளெல்லாங் குலுங்குதல், ஆயாசம், இரைப்பு, கபாதிக்கம், பொடியிருமல், மேல் சுவாசம், முதலிய துர்குணங்கள் உண்டாகும்.

இது சுக்கில சுரோணிதங்களில் தோசத்தை உண்டாக்கி கருப்ப நாசம் உண்டாகும்.

- (Pg. No. 30)

#### As per Pararaasa Sekaram

"Athithoola rogam" is defined as increase in body mass and excessive deposition of muscles and fat in thigh, breast and abdomen. There is tiredness, fatigue and breathlessness, decrease in IQ, increased kapha features such as cough, are also present.

The line mentioned **Athithoola rogam** in pararasa sekaram, Jeevarakshamirtham and Anubava Vaithiya Deva Ragasiyam coincides with the symptoms of **Obesity** described in modern medicine.

## கப உடலின் பண்புகள்

“தெரிவாய் கபத்தின் குணக்காரன் செய்தி யதனை நெறியாக

அரிய சரிதை விசுவாசம் அடைந்தோ னன்றிக் கரியகுணன்”

“பேச வரிய சங்கீதம் கேட்கும் பீரிதி யுளனாவான்

ஆசி லாத வுணவுதினம் அதிக முண்பான் சுகதேகன்

மாசி லாத கமலமென வடிவம் படைக்கும் தனரொக்கான்

நேச மான கபகுணத்தான் குணங்க னிவையே நிதத்தினனே”

“ஆவயவி முழுவ தூஉ மடர்ந்தெழு முளையும்

ஆசைமதக் களிரென வடிபெயர்த் திடலும்”

- சித்த மருத்துவாங்க சுருக்கம் - 119

## As Per Thirukkural

Over eating and faulty diet habits are main causes for Athithoola rogam. Faulty diet habits are the cause of ailments such as obesity, diabetes and hypertension. This is very clearly illustrated by sage Thiruvalluvar in the athikaram ‘**marunthu**’ about the faulty diet habits and the after effects. They are,

“மருந்தென வேண்டா வாம் யாக்கைக்

கருந்தியதற்றது போற்றியுண் ணின்”

- திருக்குறள் 943

No medicine is necessary for him who eats after assuring (himself) that what he has (already) eaten has been digested.

“அற்றால் அளவறிந்து உண்க வஃதுடம்பு

பெற்றா னெடிதுய்க்கு மாறு”

- திருக்குறள் 944

If (one's food has been) digested let one eat with moderation; (for) that is the way to prolong the life of an embodied soul

To extend life and to decrease mortality food should be taken according to the need of physoque(i.e.,). The labour population should take more food than sedentary executives. Every body

should know the characters of the food and it should be in such form that it maintains the trithathus in normal ratio.

“மாறுபாடில்லாத உண்டி மறுத்துண்ணி

ஹாறுபாடில்லை யுயிர்க்கு”

- திருக்குறள் 945

There will be no disaster to one's life if one eats with moderation, food that is not disagreeable.

Food, which are sweeter in taste increase kapha, which in turn causes “Athithoola rogam”. This is very clear that high calorific diets increase body mass index.

“தீயள வின்றித் தெரியான் பெரிதுண்ணின்

நோயள வின்றிப் படும்”

- திருக்குறள் 947

If a person without knowing his capacity of digestion, conceives more food, he falls prey to disease and sorrow. One should eat only for his need and not for his taste.

“The earth has enough for every one's need but not enough for every one's greed”

**-food and thoughts.**

## **SIX TASTES**

**இனிப்பு சுவையின் தீக்குணத்தொழில்**

“மதுர மதிகம் அருந்துவோர்க்கு

மலியும் நிணமும் கபமுந்தான்

கதுமென் றுடலம் பெருத்துவிடும்

கனலுங் குறையும் செரியாது

பொதுவில் சுரக்கும் மதுமேகம்

புகல்கண் டலங்கல்புரை குழலும்

விதுவின் நுதலாய் சந்நியாசம்

விளையுமெனவே விளம்புவரே”

- சித்த மருத்துவாங்க சுருக்கம்

These lines illustrate,

1. Increase of fat
2. Increase in body weight
3. Diabetes mellitus
4. Cerebro vascular diseases
5. Increased kapha features

So increased sweet taste forms a pathway to Athithoola rogam which in turn leads to dangerous ailments such as Atherosclerosis, Diabetes mellitus and Myocardial infraction.

### As per Ayurveda Concept

#### Definition of *Sthaulya*

A person having pendulous appearance of *Sphika* (Hip), *Udara* (Abdomen) and *Stana* (Chest) due to excess deposition of *Meda* (Fat) along with *Mamsadhatu* and also having unequal an abnormal distribution of *Meda* with reduced enthusiasm towards life is called *Atisthula*. Obesity is an increase in body weight beyond the limitation of skeletal and physical requirements as the result of excessive accumulation of body fat.

#### Classification

*Vagbhata* have been mentioned three types of *Sthaulya* i.e. *Adhika*, *Madhyama* and *Hina* with management point of view.

(1) ***Hina Sthaulya*** : (B.M.I. 25-30 kg/m<sup>2</sup> – Over Weight)-Mild degree of overweight, without any complication or secondary disease, with less than four undesirable symptoms and with duration of less than 1 year – can be considered as *Hina Sthaulya*.

(2) ***Madhyam Sthaulya*** : (B.M.I. 30-40 kg./m<sup>2</sup> - Obese)- Moderate degree, with least complications without secondary disease, with less than 8 undesirable symptoms and duration of 1 to 5 years can be considered as *Madhyam Sthaulya*.

(3) ***Adhika Sthaulya*** : (B.M.I. > 40 kg./m<sup>2</sup> – Very Obese)-Excessive degree, with complication and secondary disease with all 8 undesirable symptoms and duration of more than 5 years can be considered as *Adhika Sthaulya*.

#### *Nidana* (Etiological factors)

All the etiological factors are classified into four groups: ***Atisampuranat***: Excessive indulgence in various diet articles; ***Avyayamat***: Less physical activities; ***Manasaja***: Psychological; ***Beejadoshaj***: Genetic / Hereditary defect.

#### Role of *Aharatmaka Nidana*

*Ahararasa* plays a major role for increasing *Medadhatu* in *Sthaulya*. So, *Acharya Sushruta* has mentioned, *Sthaulya* and *Karshya* depends upon the quality and quantity of *Ahararasa*. On the basis of

*Samanya Vishesh Siddhanta* and *Ashraya-ashrayi Sambandha* the excessive consumption *Kapha Vriddhikara Ahara* causes the over production of *Rasadhatu* with further over production of *Medodhatu*.

### **Role of Viharatmaka Nidana**

All the *Aharatmaka Nidana* ultimately decreases physical activity, which aggravates *Kapha* and leads to *Meda* deposition. *Viharatmaka Nidana* like *Divaswapa* having *Abhishyandi* property leads to blockage of the micro channels of the body, specifically in *Medovaha srotas*. Moreover, reduced metabolic rate during sleep is an important factor for genesis of excess fat. **Role of Manas Vyapara**

Due to adaptation of modern lifestyle, a person has reduced his physical activity and instead of that, the mental work is increased. *Sthaulya* is also considered under the group of psychosomatic diseases. *Harshanitya* (Excessive pleasure) and *Achintana* (jolliness) are two psychological factors mentioned by *Acharya Charaka*, which are responsible for *Kapha* aggravation and lead to *Meda vriddhi*. With this type of psychological well-being and jolliness that person indulges more in worldly pleasure and excess energy stored in the form of *Meda*.

### **Role of Beejadoshha**

*Acharya Charaka* has mentioned that *Beejadoshha* plays a major role for *Medovriddhi*. Defect of *Beejabhagavayava* i.e. part of *Beeja*, which resembles with Genes, may lead to defective development of that organ. Also, *Bhavamishra* has mentioned that increased proportionate of *Meda* and decreased proportion of *Shukra* in *Beeja* at the time of conception predisposes towards development of fleshy but weak body. Moreover, over nutrition particularly with *Madhura Rasa* during pregnancy is mentioned as a causative factor for birth of obese child, which indicate role of hereditary factor in genesis of *Sthaulya*.

### **Samprapti (Pathogenesis)**

Vitiation of few basic component of body is required for the manifestations of any disease which are as follows:

1. *Dosha*, 2. *Dushya*, 3. *Srotasa*, 4. *Agni* and *Ama* ,

#### **1. Dosha:**

In pathogenesis of *Sthaulya*, all three *Doshas* are vitiated.

**a) Kapha:** *Sthaulya* is described by most of *Ayurvedic* classical text as *Shlesma Nimitaja Vyadhi*. So *Kapha* is main *Dosha* in pathogenesis of the disease. Excessive consumption of *Ahara* like *Guru*, *Snigdha*, *Madhura*, *Sheeta*, *Picchila*; *Vihara* like *Avyayama*, *Divaswapna* etc. and *Manasika Nidana* like *Achinta*, *Nitya Harsha* etc.; leads to vitiation of *Kapha*. Most of symptoms of *Sthaulya* come under the category of *Kapha Vriddhi* (*Prakopa*). i.e. *Alasya*, *Gatrasada*, *Angagaurava*, *Nidradhikya* etc. Usually the *Sthaulya Rogi* belongs to *Kapha Prakriti* so they may have slow and lethargic physical



activity with *Sthula Anga* by nature and also they have more pleasure and less tension - anxiety, so *Kapha Prakriti* persons are more prone to become obese (*Sthula*).

**b) Pitta:** In obese persons, *Pitta* is also remains in higher sight because the symptoms of *Sthaulya* like *Ati Kshudha*, *Ati Pipasa*, *Swedadhikya*, *Daurgandhya* have also been mentioned in the *Pitta Vriddhi*. Mainly the *Pachaka pitta* is involved in the aetiopathogenesis of the disease.

**c) Vatta:** In this disease, *Vata* has been mentioned in the state of *Avrita* in *kostha*, which makes the *Agnivaishamya*, ultimately increases the *Abhyavaharana Shakti* or demand of food. The process of circulation, digestion and proper distribution of *Dhatu*s are controlled by *Samana* and *Vyana Vayu*. Hence, involvement of *Samana Vayu* can be clearly postulated with the evidence of *Agni Sandhukshana* and improper distribution of fat in the body proves the involvement of *Vyana Vayu*.

## 2. Dushya

*Acharya Sushruta* has mentioned *Sthaulya* as a *Dusya* dominant disease and in this disease the excessive production of abnormal *Medadhatu* is clearly visualized. *Kapha* is seated in *Meda* along with other *Dhatu*s. So, on the basis of *Ashray-ashrayi bhava* vitiation of *Kapha* also lead to vitiation of that *Dhatu* in which *Kapha* seated. Moreover, excessive consumption of such *Guna* dominant diet forms that specific *Guna* dominant *Poshaka Annarasa*. This specific *Dhatu poshakansha* in excessive a quality and quantity increased the particular *Dhatu*. In disease *Sthaulya* excessive intake of *Guru Snigdha*, *Madhuradi Guna* dominant diet, increase accumulation of *Medodhatu*.

## 3. Srotasa

In the disease, involvement of *Medovaha Srotasa* is the main factor along with the involvement of other *Srotasa*. According to *Acharya Charaka*, *Avyayama*, *Divaswapa* excessive intake of *Medur dravyas* and *Varuni*, are the *Nidana* of *Medovaha strotodushti*. It indicates clear involvement of *Medovaha srotasa* along with *Rasavaha srotasa*. *Atisweda* and *Daurgandhya* indicate the involvement of *Swedavaha srotasa*. Presence of *Atipipasa* indicates the involvement of *Udakavaha srotasa*. In the pathogenesis of *Sthaulya*, increase fat deposition inside the muscle (*Vasa*) indicates the involvement of *Mamsavaha srotasa*.

## 4. Agni and Ama

According to *Vagbhata*, *Mandagni* at *Jatharagni* and *Dhatvagni* level is considered as root cause of all disease. Due to *Mandagni*, formation of *Ama* occurs. Some disorders like *Ajirna*, *Alasaka*, *Vishuchika* emerge as a result of derangement of *Jatharagni*, while disorders like *Sthaulya* results from derangement of *Dhatvagni*. In *Sthaulya*, due to vitiation of *Vata* by obstruction of *Meda*, *Tikshnagni* is a prominent feature. Here, a question arise, how *Ama* formation can take place instead of *Tikshnagni*. Commentators *Chakrapani* and *Dalhana* have tried to clarify this controversy by giving explanation, that in the stage of *Tikshnagni*, person go for *Adhyashana*, *Kalavyatita ahara sevana* again and again,

which leads to disturbance in *Agni* and subsequently formation of *Ama* may take place. It has been further explained by *Dalhana* that in the *Sthaulya*, formation of *Ama* is more due to decrease of *Medodhatvagni* than *Jatharagni*.

According to ‘*Dhatu Parinama* concept’, (at *Dhatvagni* level) *Vridhhi* of previous *Dhatu* and *Kshaya* of further *Dhatu* are take place. In cases of *Sthaulya*, excessive consumption of *Guru*, *Madhura*, *Snigdha guna* dominant diet produces excessive and inferiority *Medodhatu Poshaka Annarasa*, this makes *Medodhatvagnimandya*. So as per above concept in the state of *Medodhatvagni mandyata*, previous i.e. *Medodhatu* increase and further/*Uttaradhatu* i.e. *Asthi*, *Majja*, *Shukra* are decreased.

- (*Charak Samhita* of *Agnivesha* elaborated by *Charaka* & *Drudhabala* with ‘*Ayurveda-Dipika*’ commentary by *Chakrapanidatta*, edited by Vaidya Yadavaji Trikamji Acharya, *Sutrasthana* Chapter 21; Verse No-9. Page no.117, Published by Chaukhamba Surbharati Prakashan Varanasi. Reprint 2011.)

As per Siddha literature food and faulty habits are the reasons for disease. The food intake and the taste it possesses decide the three humour ratio in the body.

If excess sweet taste food and food which transforms into sweet where is consumed that will increase kapham.

Excessive usage of sweets will lead to a kapha constitution. When we keenly observe the qualities of a **Kapha Thegi** (கபதேகியின் இலக்கணம்) it is clear that there is,

1. Increased body mass
2. Increased appetite
3. Increased fond of sweet taste
4. Excessive body odour and increased sweating
5. Infertility
6. Elephant like gait
7. Fatty deposition

### **Avathaigal (Complication of Neerizhivu)**

காணவே முதலவத்தை சரீரந் தானும்

கானமாகப் பருத்திறுகி நீர்த்துவாரம்

.....

- யுகி வைத்திய சிந்தாமணி

### **Three homour theory**

Siddha science is based on three humours namely Vatham, Pitham, Kapham viz. Wind, Bile and Phlegm. They are the fundamental factors in the composition and constitution of the human body. In scientific parlance, Vatham comprehends all the phenomena which come under the influence of the central and sympathetic nervous system. Pitham, regulates the function of thermo genesis i.e. metabolism and process of digestion. Kapham comprehends the regulation of heat and the functioning of vital glands. Any imbalance contributes to the ailments which are cured by balancing the humours. This emphasizes the importance of humoured pathology, in the diagnosis of disease.

Kapha is the main humour which is affected(i.e.,). It increases in its amount, which leads to,

1. Lassitude, Laziness
2. Increased body weight
3. Increased sweating and chillness
4. Indigestion
5. Increased sleepy nature

### **Pancha Bootha theory**

Earth and water plays a major role in formation of the physique as per siddha theory. Earth is a basic building material of bone, muscles and hair. Water is responsible for fat, blood, semen and urine.

Sweet taste is composed of earth and water when it is increased, earth and water inside the body too increases. This is represented by excessive deposition of fat and muscles.

### **Engunangal concept**

Among Engunangal, Mogam stands for desire. If one's desire towards food is increased, he will definitely becomes obsess. Depression due to sedentary life pattern and over eating leads also causes obesity.

### **Thamogunam and sedantary life pattern**

தமோகுணத்தின் இயல்பு

“விளம்பவே செய்தநன்றி மறுத்தல் விந்தை

மிகப்பேசல் சிதைந்து முறை மிடுக்குப்பேசல்

முளம்பவே முன்னுரைத்தல் பழியைக் கூறல்

முகத்துடனே பேசல் பகையுடனே வாழ்தல்

புளம்பவே பொய் கொலைகள் களவுகாமம்

பொல்லாங்கு யாவையுமே புகன்று பேசல்

களம்பவே காமத்தின் குரோத மிக்கக்

கடிந்திடுந் தாமத குணத்தின் காட்சியாமே”

- உடல் தத்துவம்

The food that increases thamogunam mostly are fat and carbohydrate. These food increases Thamo character which are lassitude, increased stamina, oscillation in mind, increased sexual affair, decreased I.Q and sleepy nature.

The basic step in diagnosis charted by the sage Thiruvalluvar is

“மிகினும் குறையினும் நோய்செய்யும் நூலோர்

வளிமுதலா எண்ணிய முன்று”

- திருக்குறள்

If (food and work are either) excessive or deficient, the three things enumerated by (medical) writers flatulence, biliousness, and phlegm, will cause (one) disease.

When we observe the aetiology, it is clear that kapham is increased and Pitha decreased (i.e. Sadhagam). Vatham is increased a little. This can be illustrated by increased laziness, which is also a nature of Vatham. So here an imbalance of three thathus occurs and they are converted into three kutras among which increased kapham is the basis of this disease.



According to the five element theory, the human being is a small model of the universe siddha physiology explains relation of macrocosm (universe) and microcosm (Man).

Siddha physiology provides the better meant for the maintenance of the normal equilibrium of the thathuvams, thereby keeping the physical body and mind in a Normal functioning state.

This involves the following in addition to the 96 Thathuvams,

- |                   |   |                       |
|-------------------|---|-----------------------|
| 1. Udal Thathukal | - | 7 somatic compounds   |
| 2. Vegams         | - | 14 remedial functions |
| 3. Suvaigal       | - | 6 tastes              |
| 4. Udar thee      | - | 4 body fire           |
| 5. Udal vanmai    | - | 3 immunities          |

### **UDAL KATTUKAL 7 - Constituents of the physical body.**

It plays a very important role in the development and nourishment of the body, they are as follows,

#### **1. Saaram**

It consists of dietary nutrients from ingested food and nourishes all the tissues, organs and systems through the blood.

#### **2. Cheneer**

It governs the oxygenation and supplying the Saaram to all the tissues and it is responsible for the nourishment, vigour, strength and colour of the body.

#### **3. Oon**

It gives the bulky appearance and look able contour of the body, which is needed for the physical activity and also forms the basic skeletal structure of internal organs too. It also performs the movements of the joints and maintains the physical strength of the body.

#### **4. Kozhuppu**

It maintains the lubrication of all tissues and gives energy, to the body.

## 5. Enbu

Forms the basic skeleton of the physical body, it support and protect the organs and it is a fundamental requirement for posture and movement of the body.

## 6. Moolai

Bone marrow nourishes the tissues of bone. Brain is the central nervous system of the body.

## 7. Sukkilam/suronitham

Responsible for the reproduction and also provides strength to the human body.

## VEGAMS – REFLEXIAL FUNCTIONS:

Reflexes are essential for the normal function of the human body, they are

- |     |            |   |                    |
|-----|------------|---|--------------------|
| 1.  | Abana vayu | - | Downward force     |
| 2.  | Thummal    | - | Sneezing           |
| 3.  | Siruneer   | - | Micturition        |
| 4.  | Malam      | - | Defaecation        |
| 5.  | Kottavi    | - | Yawning            |
| 6.  | Pasi       | - | Hunger             |
| 7.  | Neervetkai | - | Thirst             |
| 8.  | Erumal     | - | Coughing           |
| 9.  | Elaippu    | - | Exhaustic veners   |
| 10. | Thookam    | - | Sleep              |
| 11. | Vanthi     | - | Vomiting           |
| 12. | Kanneer    | - | Lacrimation        |
| 13. | Sukkilam   | - | Genital Secretions |
| 14. | Suvasam    | - | Breathing          |

## SUVAIKAL (SIX TASTES):

Suvai can be termed as a peculiar sensation caused by the contact of soluble substances with the tongue, each suvai has two boothams in it.

1. **Sweet** - Mann + Neer  
Its primary actions are building tissues and calm the nerves.
2. **Sour** - Mann + Thee  
It cleanses tissues, increases absorption of nutrients.
3. **Salt** - Neer + Thee  
It improves taste to food, lubricates tissues, stimulates digestion.
4. **Bitter** - vayu + Aagayan

It detoxifies and lightens tissues.

5. **Pungent** - Vayu + Thee

It stimulates digestion and metabolism.

6. **Astringent** - Mann + Vayu

It absorbs water, tightens tissues and dries fats.

### **UDAL AGNI – 4 Body Fires.**

The Agni - Azhal which is responsible for digestion and mediated through the samanavayu is called as Udal Agni. It is classified into 4 types.

1. Samanagni
2. Vishamaagni
3. Deesagni
4. Mandhagini

#### **Samaagni**

When the jadaragini is normal with the proper balance of the three Thathuvams then it, is called as samaagni. Here the balanced diet of an individual is properly digested in time.

#### **Vishamaagni**

If the Udanavayu is mostly affected, it causes defect in digestion and make the food become poisonous, here the Agni is called as Vishamaagni.

#### **Deekshanagani**

An increased Praasaga with the deficiency of Kilethagam leads to this condition, causing excessive digestive fire, burning a larger quantum of food in a lesser duration.

#### **Mandhaagini**

An increased Kilethagam with the deficiency of Praasaga causes this condition, in which food is poorly digested and the process of digestion takes a longer duration.

### **UDAL VANMAI - Three types of Immunity:**

1. Iyarkaivanmai - Innate immunity  
The natural immunity against diseases of the body from birth.
2. Seyarkai vanmai - Acquired immunity  
Improve the health by nutrients food activities and medicines.
3. Kalavanmai - Seasonal immunity.  
Develop the immunity and stamina according to the age of the person, season and environment.

**Table : 1 YAKKAI (SOMATIC TYPES)**

<b>Characters</b>	<b>Vatha Constitution</b>	<b>Pitha Constitution</b>	<b>Kapha Constitution</b>
Built and appearance	Lean and lanky, lengthy built	Moderate built	Short, uniform thickness, broad built.
Skin - colour & Complexion	Dark and light admixed complexion. Dry skin	Red and Yellow. Wrinkles	Yellowish White, Fleshy, flappy and shiny
Bones and Joints	Cracking sound of joints on walking with prominent joints	Thin covering of bones and joints by soft tissue	Plumpy joints and limbs
Hair and Eyelashes	Split hair and dark eyelashes	Sparse hair with graying	Dark and Dense hair
Appearance of Eyes	Lengthy Eyes	Easily suffusing eyes due to heat and alcohol	Sparkling eyes
Vision	Long sight	Short sight	Clear sight
Voice	Clear and high pitched voice	Clear and medium pitched Voice	Husky and unclear. Low pitched voice
Tongue	Lengthy, sharp ended tongue with black patches	Medium and yellow or red coloured	Blunt, thick tongue with white coated
Appetite	Scant appetite for cold food items	Increased appetite and intolerance to hunger, thirst , heat	Less appetite and tolerant to hunger, thirst, heat
Taste	Desire for pungent, salt, sweet, heat	Desire for bitter, sweet, astringent	Desire for sour, bitter, astringent
Sleep	Sleeping with half closed eyes	Medium sleep	Deep sleep
Dreams	Flying dreams around the hills, sky. Walking around the dense forest.	Seeing like yellow colour flowers, fire, sun, thunder etc.	Seeing the cooling places like lotus in the pond,.
Strength	Poor strength	Medium strength	Immense strength
Character	ThamoGunam	RajoGunam	SathuvaGunam
Special Character	In generosity	discipline, good habits, eagerness	Discipline and increased knowledge
Knowledge	Oscillation mind	Brilliance	Genius
Sexual activity	Loss of libido	Desire in sexual activity	Loss of libido

# SIDDHA PATHOLOGY

Siddha Pathology is a study of changes in the Uyir thathukkal and Udal thathukkal of the body in a diseased condition.

## Basis of siddha pathology:

According to siddha pathology, the human body is made of pancha boothams. These five basic elements exist in human body as uyir thathukkal. It is of 3 types namely Vali, Azhal and Iyam. These 3 essential humours are formed by the combination of

Idakalai + Abaanan – Vatham

Pingalai + Praanan – Pitham

Suzhumunai + Samaanan – Kapham

This uyir thathukkal is functioning as

வாதமாய் படைத்து - Creation

பித்தவன்னியாய் காத்து - Protection

சேட்பசீதமாய் துடைத்து - Destruction

Uyir thathukkal are responsible for Udalathathukkal. These basic structures of the body system are interlinked with one another. Any alterations in this basic form results in disease

## NOI – DISEASE

### Synonyms

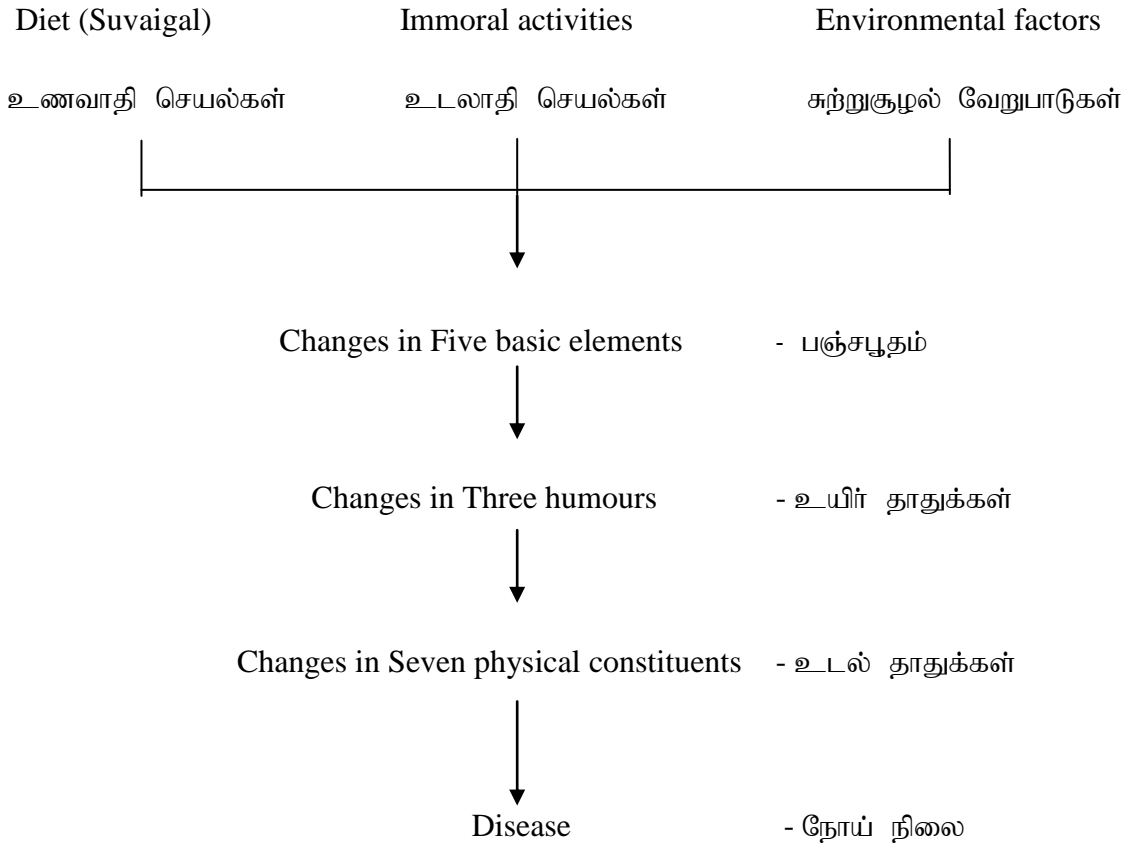
Pini, varutham, Thunbam, Accham, Vinai, Urogam, sugavenam, Viyathi, Asowkiyam, thathuthoda Verupadu.

According to Siddha Noi (disease) is again defined as,

உணவாதி செயல்களால் உயிர் தாது, உடல்தாது ஆகியவற்றில் ஏற்படும் மாற்றங்களின் காரண, காரியமே நோய் எனப்படும்.

Various factors are responsible for occurrence of disease such as changes in dietetic factors, physical activities, and environmental factors.

This is quoted in the following schematic form,



The changes in the any of the above basic structures forms the pathology of the disease

## I. VARIATIONS IN THE INTAKE OF DIET:

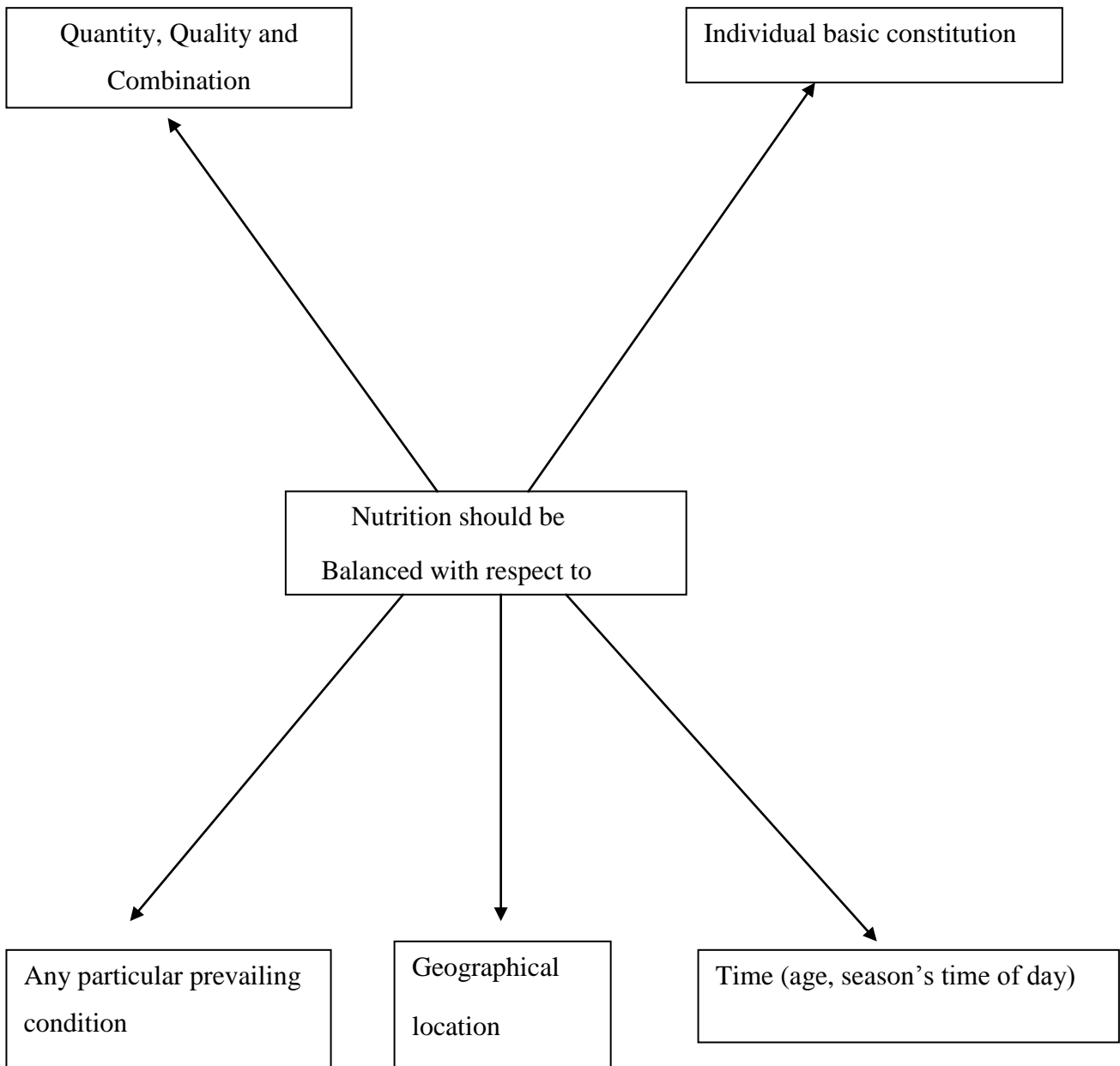
Any material that provides the nutritive requirements of an organism to maintain growth and physical well – being is called as food.

Food comprises six suvaikal in appropriate proportion. Suvaikal are formed by the combination of panchapootham, which are responsible for the uyirathu and seven udalthathukal.

In ‘THIRUKKURAL’ the following quotations are given regarding food and food habits.

“மாறுபா டில்லாத வுண்டி மறுத்துண்ணி

ஊறுபா டில்லை வுயிர்க்கு”.



An alteration in the normal, regular diet will produce changes in the proportion of the suvaikal resulting in diseases.

***Abnormal Arusuvai → Affected Uyirthathu → Affected Udalthathu → Noi***

Excessive intake of a particular suvai may produce hyper activeness of the concerned boothams and develops some clinical manifestations. They are given below.

## II. SUVAIGAL

**TABLE 2:**

S.No.	Tastes	Diseases due to high intake
1.	Enippu	<b>Develops obesity, excessive fat, increased mucous secretion, indigestion, diabetes, cervical adenitis, increased kabam and its diseases</b>
2.	Pulippu	Develops nervous weakness, dull vision, giddiness, anaemia, dropsy, dryness of tongue, acne, blisters etc.
3.	Uvarppu	Ageing, hair loss, leprosy, dryness of tongue, debility
4.	Kaippu	Increased dryness of tongue, defected Spermatogenesis, body weakness, dyspnoea lassitude, tremor, back and hip pain.
5.	Kaarppu	Dryness of tongue, generalized malaise, tremor, back pain, lassitude etc.
6.	Thuvarppu	Abdominal discomfort, chest pain, tiredness, impotency, vascular constriction, constipation, dryness of tongue etc.



### III. MUKKUTRAM

#### Vatham

These are the three vital elements or the functional units of the body, namely, Vatham, Pitham and Kapham.

Vatham is the kinetic energy which influences all motions.

Vatham is located in the abaanan, motion, idakalai, spermatic cord, iliac bone, skin, nerves, joints, hair follicles, muscles, bone, ear and thigh.

It is classified into 10 types,

**Table 3:**

<b>TYPES</b>	<b>FUNCTIONS</b>	<b>IN ATHITHOOLA ROGAM</b>
Praanan	Pertaining to respiration and digestion.	<b>Breathlessness present.</b>
Abaanan	It expels stool, urine, semen and foetus.	<b>Constipation, polyuria and scanty micturation in some cases.</b>
Viyaanan	Pertaining to sensory reception. It carries nutrients to all over the body. It flexes and extends the movable parts.	<b>Pain and tenderness over the affected area.</b>
Udhanan	It induces vomiting and hiccups.	<b>Increased appetite.</b>
Samaanan	It balances effects of the all other vayus.	<b>Affected, since other vayus affected.</b>
Nagan	It controls the blinking of eyes.	<b>Not affected.</b>
Koorman	It helps in vision of the eye. It controls lacrimation and blinking of the eye.	<b>Cataract, burning sensation of the eye and insomnia in some cases.</b>
Kirukaran	It produces nasal discharges, sneezing and secrets saliva.	<b>Sneezing present in some cases.</b>
Devathathan	Sleep, fatigue, tiredness, anger are caused by Devathathan.	<b>Insomnia, tiredness, fatigue present.</b>
Dhananjeyan	It produces oedema of the body and hyperacusis in the ears.	<b>Not affected.</b>

## Pitham

Pitham is located in urinary bladder, heart, head, pingalai, umbilicus, abdomen, praanan, stomach, blood, sweat, skin and eye.

It is classified into 5 types,

**Table 4:**

<b>TYPES</b>	<b>FUNCTIONS</b>	<b>IN ATHITHOOLA ROGAM</b>
Anar pitham	It is responsible for the digestion of food.	<b>Affected mainly due to inappropriate appetite and digestion.</b>
Ranjaga pitham	It is responsible for the colour and contents of the blood.	<b>Eosinophilia raised ESR.</b>
Saathaga pitham	It is responsible for thinking process.	<b>Unable to carry out regular works properly.</b>
Aalosaga pitham	It is responsible for the vision.	<b>Not affected.</b>
Praasaga pitham	It is responsible for the complexion of skin.	<b>Not affected.</b>

## Kapham

It stabilizes, maintains and lubricates all over the body.

Kapham is located in Samaanan, semen, head, tongue, fat, bone marrow, blood, nose, chest, nerves, bones, brain, large intestine, eye, stomach and pancreas.

**Table 5:**

<b>TYPES</b>	<b>FUNCTIONS</b>	<b>IN ATHITHOOLA ROGAM</b>
Avalambagam	It controls all other kaphams.	<b>Affected since other kaphams are affected.</b>
Kilethagam	It gives moisture and softness to the ingested food	<b>Increased appetite.</b>
Pothagam	It is responsible for the sense of taste.	<b>Feeling of sweet taste.</b>
Tharpagam	It gives cooling effect to the eye.	<b>Insomnia, burning sensation of the eyes.</b>
Saathagam	It is responsible for the movements of the joints.	<b>Pain in the joints.</b>

### III. ALTERATIONS IN UDALTHATHUKKAL

**Table 6:**

S.No.	Udal thathukkal	Increased features	Decreased features
1.	Saaram	Loss of appetite, excessive salivation, heaviness, decreased physical constituents, dyspnoea, cough, flatulence.	Dryness of skin, tiredness, loss of weight, less ability in hearing.
2.	Cheneer	Boils in different parts of the body, Spleenomegaly, tumours, pricking pain, loss of appetite, Haematuria, hypertension, reddish eye and skin, leprosy, jaundice.	Affinity to sour and cold, dryness, pallor
3.	Oon	Tubercular adenitis, venereal diseases, <b>extra growth around neck, cheeks, abdomen, thigh, genitalia.</b>	Lethargic sense organs, pain in the joints, muscle wasting in chin, gluteal region, penis and thigh
4.	Kozhuppu	<b>Identical features of increased Oon, dyspnoea on exertion, extra musculature in gluteal region, external genitalia, chest, abdomen, and thigh</b>	Loin pin, Spleenomegaly, emaciation
5.	Enbu	Excessive ossification and dentition	Joint pain, falling of teeth, falling and splitting of hairs and nails.
6.	Moolai	Heaviness of body and eye, swollen inter phalangeal joints, Oliguria, non – healing ulcers.	Osteoporosis, blurred vision.
7.	Sukkilam (or) suronitham	Increased sexual activity, urinary calculi	Dripping of semen, vaginal fluid, pricking pain in the scrotum, inflamed and contused external genitalia

**In Athithoola Rogam, Saaram, Cheneer, Oon, Kozhuppu thathukkal are increased.**

#### IV. GNANENDHRIYAM

**Table 7:**

<b>Gnanendhriyam</b>	<b>Function</b>	<b>In Athithoola Rogam</b>
Mei	Organ of sensation	<b>Soft, cool</b>
vaai	Organ of taste	<b>Sticky, a feeling of sweetness</b>
kann	Organ of vision	<b>Not affected</b>
mookku	Organ of smell	<b>Not affected</b>
sevi	Organ of hearing	<b>Not affected</b>

#### V. KANMENDHRIYAM

**Table 8:**

<b>Kanmendhriyam</b>	<b>Function</b>	<b>In Athithoola Rogam</b>
Kai	Pertains to agni and do various works	<b>Difficulty in using the limbs</b>
Kaal	Organ of locomotion	<b>Difficulty in using the limbs</b>
Vaai	Organ of speech	<b>Not affected</b>
Eruvaai	Organ of defecation and micturation	<b>Constipation in some cases</b>
Karuvai	Organ of reproduction	<b>Infertility in some cases</b>

#### IV. ENVIRONMENTAL CHANGES:

##### a) Seasonal changes of humours

**Table 9:**

Humour	↑	↑↑	N
Vatham	Mudhuvenil kaalam	Kaarkaalam	Koodhirkalam
Pitham	Kaarkaalam	Koodhirkalam	Munpanikalam
Kapham	Pinpanikalam	Elavenil kalam	Mudhuvenil kalam

↑Thannilai valarchi. ↑↑Piranilai valarchi. N -Thannilai adaithal.

**In Viserka Kaalam (Avani – Thai) Enippu suvai is increased. Body gets cooled to maintain Thermo regulation. Excessive food is taken is due to climate factor and exercises are restricted.**

Some the diseases are more prevalent during a particular Paruva Kaalam and study of this factor will be much use in diagnosis.

##### b) Regional changes of humours:

Kurinji	-	Kapha diseases
Mullai	-	Pitha diseases
Neythal	-	Vadha diseases
Marutham	-	No diseases will occur
Paalai	-	Any disease can easily affect

Since Marutha nilam is rich in vegetation, the inhabitants are affluent which predisposes to Athithoola Rogam.

## V. Effects on self – suppression of 14 Vegams

Reflexes are essential for the normal physiology when there is any self suppression to those reflexes, which will lead to the pathological state.

<b>Vegankal</b>	<b>Diseases</b>
1. Vadham	- Heart diseases, gastritis, umbilical hernia, body pain, liver disorder, constipation, Oliguria, loss of appetite.
2. Thummal	- Head ache, defect of special sensory organs and its activities, Pain over the face, hip joint pain.
3. Siruneer	- Anuria, urethral ulcer, gas formation in the abdomen.
4. Malam	- Diarrhoea, flatulence, knee pain.
5. Kottavi	- Urinary disorders, leucorrhoea, associated with schizophrenia, abdominal diseases.
6. Pasi	- Pricking pain all over the body, emaciation, apathetic face, painful joints
7. Neer	- Same as that of pasi
8. Erumal	- Increased cough, bad breath, heart disease
9. Elaippu	- Urinary disorder, syncope, rigor, peptic ulcer.
10. Thookkam	- Heaviness of head, pain in the eyes, deafness
11. Vaant	- Rashes, anaemia, itching, eye diseases, asthma, Fever, cough
12. Kanneer	- Heart diseases, eye diseases, wounds in the scalp, upper respiratory disorders.
13. Sukkilam	- Fever, anuria, joint diseases of upper and lower limbs, acute chest pain
14. Swasam	- Cough, epigastria pain, venereal diseases

## DIAGNOSTIC METHODS

Diagnosis is the basis of all treatments. Envagai Thervugal which is the unique and special method having a broad and important role in diagnosing a particular diseases. It is based upon the principles of poriyaal arithal, pulanaal arithal and vinaathal.

Poriyaal arithal means understanding by the five organs of perception, nose, tongue, eyes, skin and the ears.

Pulanaal arithal means understanding by the sense objects smell, taste, vision, somatic sense and sound.

Vinaathal means interrogating the patient, learning the history and symptoms of the disease by asking questions to the patient.

### Envagai Thervugal:

‘மெய்க்குறி நிறந்தொனி விழிநா விருமலம் கைக்குறி

- தேரையர்

1. Examination of tongue (நா)
2. Examination of complexion (நிறம்)
3. Examination of voice (மொழி)
4. Examination of eyes (விழி)
5. Examination of faeces (மலம்)
6. Examination of urine (முத்திரம்)
7. Examination of pulse (நாடி)
8. Examination of touch (ஸ்பரிசம்)

By interrogation feeling, seeing the symptoms and signs are heard and examined. After examining, it must be compared, excluded and at last the final diagnosis is to be arrived.

### Naa

It reflects the disease and so it gains importance in examining. The tongue is seen for the colour, shape, size, coating, fissures, growth, surfaces, sensations of taste and also salivary secretion.

## **Niram**

The normal colour of each humural body is explained. If there is any change from normal (ie) colour of eyes, tongue, mucous membrane, any erythematic, hypo (or) hyper pigmentation in the skin, they are dealt under this section.

## **Mozhi**

This not only explains the tone of speech but also the changes in modulations, pitch, sound, fluency, stammering, difficulty in articulation, repetition, listening, answering speech, associated with breathing difficulties etc.

## **Vizhi**

The view on one's eyes stretches all sides. It deals about the vision changes such as loss of vision, blurred vision, changes in visual perception, movements of eye lids & eye balls, colour of conjunctiva and growth lacrimation, dryness, contractions, congenital defects are also specified under this examination.

## **Malam**

The metabolic end product of our food after completing its work of supplying energy is expelled from the body as faeces. And thus any change in the colour, consistency, frequency, amount and components of motion exhibit the disease.

## **Moothiram**

‘அருந்துமாறிரதமும் அவிரோ தமதாய்  
அக்கல் அலர்தல் அகாலவூன் தவிர்ந்தழற்  
குற்றளவருந்தி உறங்கி வைகறை  
ஆடிக்கலசத் தாவியே காது பெய்  
தொருமுகர்த்தக் கலைக்குட்படு நீரின்  
நிறக்குறி நெய்க்குறி நிருமித்தல் கடனே

- தேரையர் நீர்க்குறி நெய்க்குறி நூல்

Urine plays an important role in revealing the diseased state in the form of changes in colour, specific gravity, odour, frequency, froth and deposits.



‘வந்த நீர்க்கறிஎடை மணம் நுரை எஞ்சலென்

ரைந்திய லுளவை யறைகுது முறையே”

-தேரையர் நீர்க்குறி நெய்க்குறி நூல்

### Neer kuri

Niram	:	Indicates the colour of the urine.
Edai	:	Indicates the weight of the urine.
Manam	:	Indicates the smell of the urine voided.
Nurai	:	Indicates the frothy nature of the urine voided.
Enjal	:	Indicates deposits present in the urine voided.

### Neikuri

This is an unique and special methodology in determining the diseases. The early morning first voided urine is taken in a glass bowl. A drop of gingerly oil is let into its surface. It forms many shapes due to the surface tension exhibited by the urine. If there is any change in the body metabolism, there will be alterations in the components of urine and thus the surface tension depicting various structures.

Vatha diseases – Rays of snake (பாம்பை போல் நீண்டல்)

Pitha diseases – As a ring (மோதிரம் போல்)

Kapha Disease – Stands as a pearl (பரவாமல் முத்துபோல்)

### Naadi

It is a special diagnostic entity and felt in the radial artery with the three fingers, fore finger (Vali), middle finger (Azhal) and ring finger tips (Iyam). Ratio is 1:1/2:1/4 respectively it serves as a good indicator of all ill health. It has been considered for assessing the prognosis and diagnosis of a disease.

**In Athithoola Rogam,**

**CHANGES IN ENVAGAI THERVUGAL**

**NAA**

Sweet  
taste

**NERAM**

Mixed  
complexion

**MOZHI**

Normal

**VIZHI**

No abnormality

**ENVAGAI  
THERVUGAL**

**SPARISAM**

Cool

**MALAM**

Constipation

**MOOTHIRAM**

Straw colour  
Polyuria  
Kaphaneer

**NAADI**

Kapham  
Vathakapham  
kaphavatham

## MANIKADAI NOOL

Manikadai nool is a traditional diagnosis method used in the Siddha medicine, with a Vedic origin. What makes Manikadai nool different is that unlike other diagnosis methods, patients themselves can diagnose their disease and know the progress.

Manikadai nool is one of the many tools used in Siddha practice. It is a Sanskrit word, 'mani' means the protuberance of wrist, 'kadai' means the finger breadth and 'nool' means thread or twine. Detailed information on this practice is available in Saint Agasthya's classical medical literary work Agasthya's Soodamani Kayaru Soothram. Also this method was used by Vedhamamuni, a student of Siddhar Agasthya, who was a proponent of the Siddha medicine.

### Procedure

In the application of Manikadai nool, the doctor measures the circumference of the right wrist using a twine, then the twine is removed from the wrist and is placed on a plain surface and the measurement of the twine is taken by the patient's fingers. Count the total length of thread in terms of finger units. The only thing should be taken care of is that the twine should be non-elastic. The progress of the disease is calculated by the number of fingers. Usually, the length of the twine starts with four fingers and ends with 11 fingers.

*In the cases of Athithoola Rogam, the patients measurement are mostly 10 and above.*

## IMPUL IYAKKA VITHI (PANCHA PATCHI)

Pancha-Patchi Shastram is based on ancient literature in Tamil language. Pancha means five and Patchi means Bird. The Pancha-Patchi system has some resemblance to the Pancha-Boothams (Five elements) system of Vedic Astrology. It is believed that the Five Elements represented by five birds, influence and control all the actions of human beings. These five birds take their turns in a special sequence and radiate their powers during day and night. The power that takes effect first on a day or night and the sequence that follows depends on the day of the week and the Paksham (waxing half or waning half cycles) of the Moon.

One of the five birds is assigned to every human being as the controlling power based on the Birth Star of the person and the Paksham of the Moon at the time of birth. The activity of this Main Bird at a given point of time and the activity of the Sub-Bird at that time and the relationship between them indicates whether the time will be beneficial and lucky for the person or not.

Pancha-Patchi Shastram is very popular in south India especially Tamil Nadu. It helps selection of auspicious time and also for answering queries.

The five birds in the Pancha-Patchi Shastram are:

- 1- Vulture
- 2- Owl
- 3- Crow
- 4- Cock
- 5- Peacock

These birds engage in any one of the following five activities at any given time:

- 1- Rule
- 2- Eat
- 3- Walk
- 4- Sleep
- 5- Die

The birds are considered most powerful when they rule and least powerful when they die.

Pancha Patchi is a method or Shastram used to diagnose one's present day physical characteristics and disease condition. So the expert reading the signs through the description of five birds can easily diagnose the disease.

Basically, Siddha aims to maintain the equilibrium between the five elements despite out constant interaction with the outer world. The five elements which work as 3 vital forces in body and perform all physical and mental functions are constantly affected by time, space and nutrition.

It is regarding a sound knowledge of **Noi – Naadal** is essential to formulate therapeutic measures for various ailments.

## SIDDHA PATHOGENESIS

In Siddha System of Medicine, **Athithoola Rogam** is caused by the aggravation of Kapham. Kapham is a humour which is dense, heavy, slow, sticky, wet and cold in nature. It governs all structure and lubrication in the mind and body apart from controlling weight and formation of all the seven tissues (Udalthathukkal) - nutritive fluids, blood, fat, muscles, bones, marrow and reproductive tissues.

In a balanced state, Kapham gives nourishment to these tissues through various micro channels. However, when it is aggravated, Kapham leads to production of toxins in the body. These toxins are heavy and dense in nature and accumulate in weaker channels of the body, causing their blockage. In the case of an **Athithoola Rogam** person, toxins accumulate in fat channels, thereby leading to an increase in the production of fat tissue (Kozhuppu thaathu). When the body produces more fat tissues, it causes an increase in weight.

In Siddha System of Medicine, word for digestion and metabolism is *agni*. Agni, when loosely translated, means fire. It actually signifies something much more than just fire and includes the idea of a precise and powerful functioning intelligence. Agni has remarkable transformative qualities. All the food we take in must be transformed into that which can be made useful by the body (nutrients) and that which is not needed (waste). The nutrients or most refined products of our *Agni*, are used to create the body's tissues.

### The Vicious Cycle

There are seven *thaathus*, and they are created sequentially. The creation of *thaathus* is an ongoing complex process. The key word is *sequential*. If at any stage there is an imbalance, this disrupts the whole sequence of tissue formation. The *udalthaathus* or channels play a big role, because they carry the information required to properly form the tissues step by step. If blockages occur in the *udalthaathus* due to toxins (*amam*), an imbalance starts. According to the Siddha System of Medicine, maintain balance and health strong *Agni* and clear *udalthaathus* are essential.

From Siddha System of Medicine, perspective the cause of weight gains is cyclical. It begins with balance reducing choices in diet and lifestyle that weaken the digestive fire, which in turns increases toxins, clogging the communication channels *udalthaathus* and thereby disrupting the formation of tissues. The poorly formed tissue layers increases Kozhuppu thaathu and an imbalance in

*Kapha Kuttram*. This in turn increases accumulation of toxins (*amam*), which leads to imbalance in *Kozhuppu thaathu*.

Accumulation of *amam* in *udalthaathus* causes an imbalance in naturally-flowing *Vatha* energy. Restricted or imbalanced *Vatha* energy ends up increasing *agni* –the digestive fire–leading to an increase in appetite and thirst. This leads in turn to an increase in *Kapha thaathu* and *Kozhuppu thaathu* and the whole cycle starts again.

To break the cycle, the Siddha expert (*Siddhar*) determines the unique nature of the individual and the nature of imbalance. The essence of recommendation is generally comes down to addressing a few core issues: strengthening digestion (balance *agni*), removing *amam*, improving dietary habits and adjusting inappropriate daily routines and lowering stress.

***Vatham:***

A balanced *vatham* is creative, artistic, sensitive, spiritual and funny. When not in balance *vatham* is nervous, anxious and restless. Stressful job or rocky relationship could lead to lack of sleep or worry, anxiety, fatigue and depression. *Vatham* is associated with air and ether elements, which causes unstable mood and mind and as a result irregular appetite. *Vatham* becomes ultimate grazers, mostly because lack of routine and order to plan a meal.

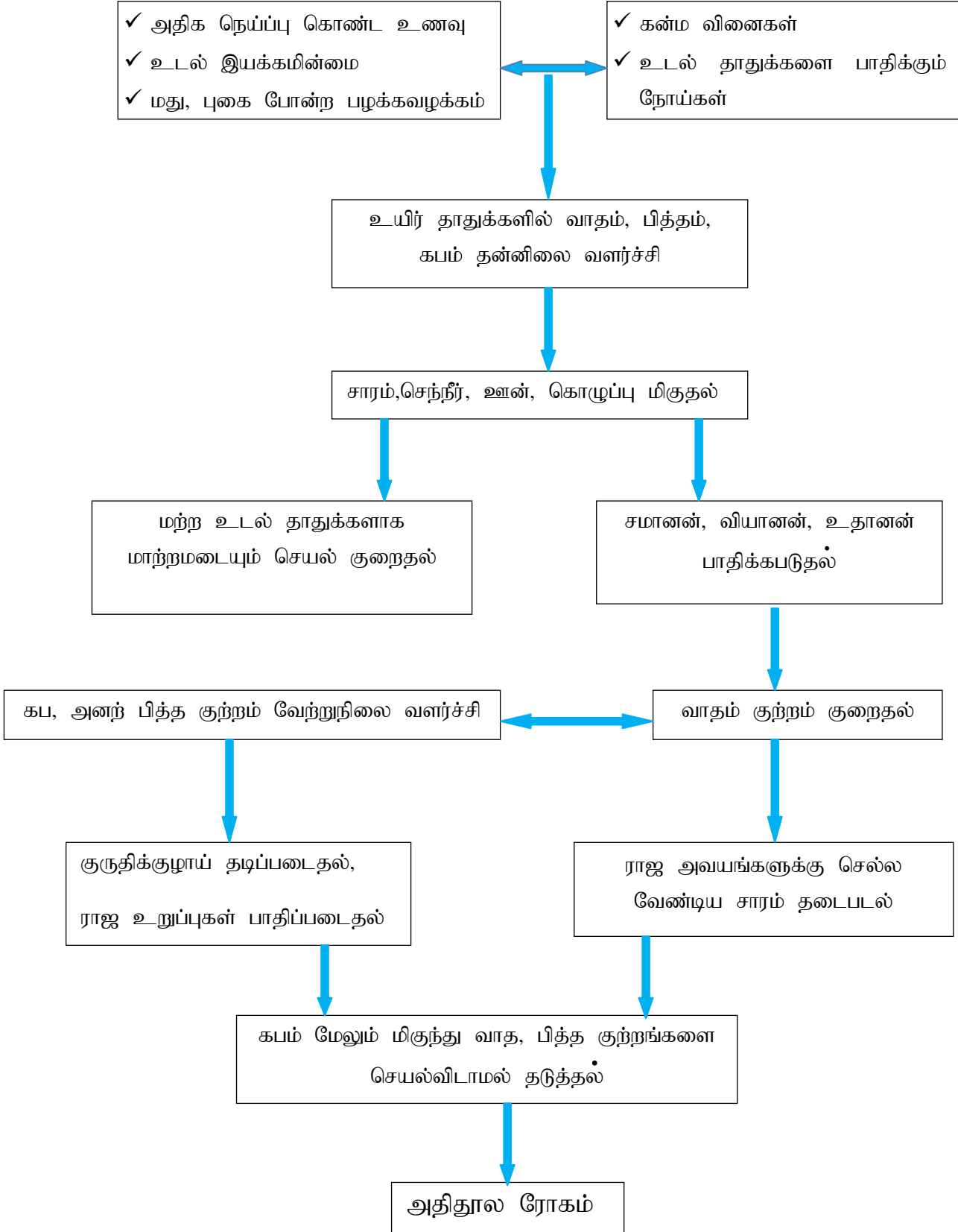
***Pitham:***

Pitham is driven, competitive, ambitious and constantly chasing the next goal. Pitham is intelligent and razor-sharp focus. Hunger is very intense in Pitham. But pitas frequently forget to eat and can't stop what they are doing to eat something healthy. They become absorbed in their task whatever they are doing.

***Kapham:***

*Kapham* moves through life at a slow, methodical space. They are calm, easy going, affectionate and content. *Kapham* is associated with earth and water elements. When not in balance this is the most common humour that develops ***Athithoola Rogam***, slow metabolism, easy weight gain, continuous appetite (addiction to eat), hypothyroid or other hormonal conditions that cause retention of weight, mainly water and fat, weak pancreas and kidneys, low pulse and energy, excess phlegm, fat deposits and benign tumours may develop.

## PATHOGENESIS OF ATHITHOOLA ROGAM



### INTRODUCTION

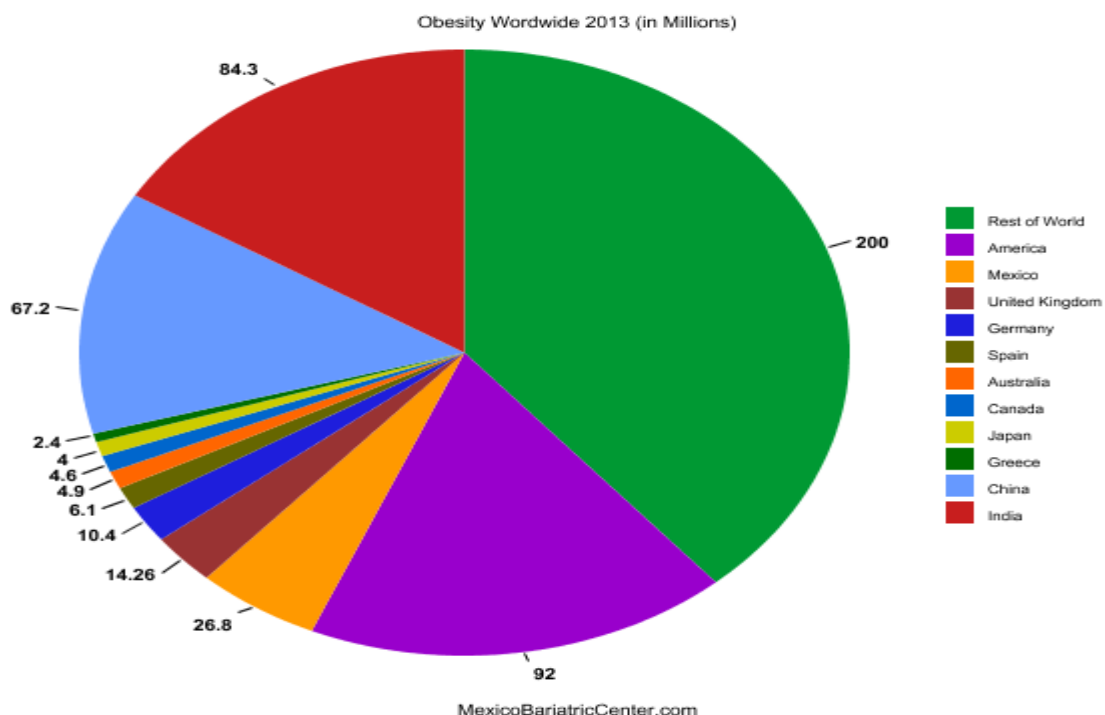
Obesity is a chronic and extremely common disease characterized by excess body fat. It develops gradually and often persists throughout life. If untreated, obesity emerges as a potent life threatening and disabling risk factor.

### DEFINITION

The term ‘obesity’ means over weight. Health professionals define ‘overweight’ as an excess amount of body weight that includes muscle, bone and fat. ‘Obesity’ specifically refers to an excess amount of body fat.

### PREVALENCE

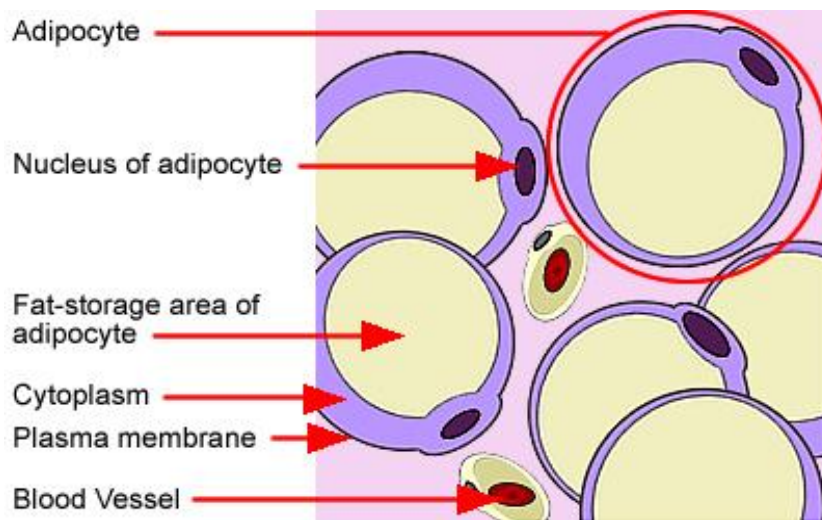
Obesity has already emerged as an important health problem in India. The Nutrition Foundation of India (NFI) study showed that 32.3% of middle class males and 50% of middle class females in India were obese. The epidemic of obesity has cut across all barriers of class and cultural backgrounds.





Although some amount of fat (lipids) may be present in the cytoplasm of many cells, including fibroblasts, some cells store fat in large amounts and become distended with it. These are called fat cells, adipocytes, or lipocytes. Aggregations of fat cells constitute adipose tissue. Fat cells are the derivatives of mesenchyme.

#### Structure of Fat Cell



Fat is an atypical connective tissue, specialized for particular purpose. It is the cell, rather than interstitial substance, that dominate the scene. They comprise most of the tissue bulk and impart its characteristic features.

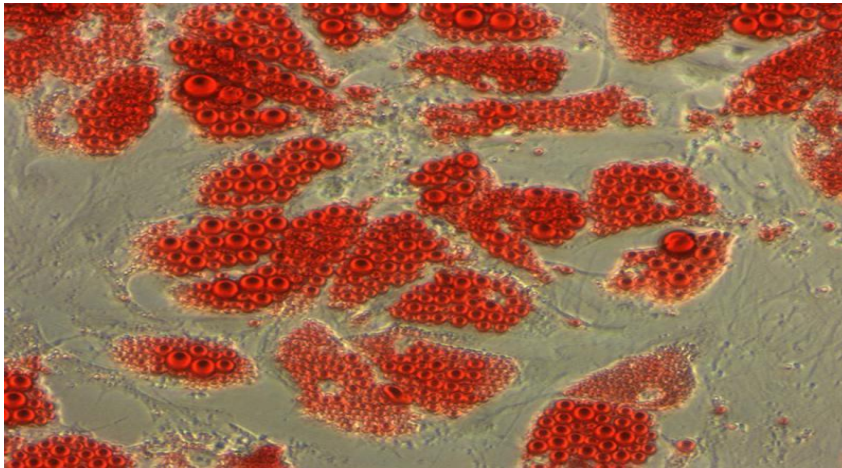
A fat cell is large, clear spherule that measures up to  $120\mu$  in diameter.

The fresh cell is highly, refractive, bright and glistening. The fat of primates has a yellow colour, due to lipochrome pigments. The cytoplasm is a thin shell, somewhat more abundant about the flattened nucleus. It contains an oil drop that exudes, when the cell is punctured. A fine network of reticular fibers envelops each cell.

Chemically fat consists of a mixture of glycerides and fatty acids. Fat is insoluble in water and cold alcohol. It is soluble in ether, chloroform, benzol and xylol. A vacant cavity is then left within the cytoplasm. However fat is rendered insoluble and retained by formation fixation.

Several staining agents colour the fatty component of adipose tissue. The dye named Sudan IV stains frozen sectioned tissue red. Yet there are no simple, specific steins for neutral fat. Osmic acid

preserves and blackens both fat and myelin. Sudan black is an excellent fat stain that also colours other liquids.



Scattering fat cells, free from mutual pressure, retain spherical shape. Compact fat differs, in that its cells are mutually compressed and deformed. Between the fat cells are compressed connective tissue cells, reticular collagenous and elastic fibres and capillaries. Closely packed fat cells make up lobules of yellow fat, separated by fibrous septa. A lobule is a territory supplied during its development by a single arteriole. The blood supply of adult fats seems to be scanty.

Actually in relation to cytoplasmic volume, the vascularity is rich. There is no intrinsic nerve supply, although nerves may be found in the tissue.

### **Types of Fat Cells**

There are two types of adipose tissue, white adipose tissue (WAT) and brown adipose tissue (BAT), which are also known as white fat and brown fat, respectively, and comprise two types of fat cells.

#### **White fat cells (unilocular cells)**

White fat cells or monovacuolar cells contain a large lipid droplet surrounded by a layer of cytoplasm. The nucleus is flattened and located on the periphery. A typical fat cell is 0.1 mm in diameter with some being twice that size and others half that size. The fat stored is in a semi-liquid state, and is composed primarily of triglycerides and cholesterol ester. White fat cells secrete many proteins acting as adipokines such as resistin, adiponectin, leptin and apelin. An average human adult has 30 billion fat cells with a weight of 30 lbs or 13.5 kg. If excess weight is gained as an adult, fat cells increase in size about fourfold before dividing and increasing the absolute number of fat cells present.

### **Brown fat cells (multilocular cells)**

Brown fat cells or plurivacuolar cells are polygonal in shape. Unlike white fat cells, these cells have considerable cytoplasm, with lipid droplets scattered throughout. The nucleus is round, and, although eccentrically located, it is not in the periphery of the cell. The brown colour comes from the large quantity of mitochondria. Brown fat, also known as "baby fat," is used to generate heat.

The content is not readily affected by changes in nutritional state. It is however, depleted rapidly after the hypophysis or supra renals are removed. This tissue is physiologically more active in certain regards than the ordinary fat. It is distinctly lobulated and highly vascular. The significance of this special type of fat is unknown.

### **Regional Distribution of Fat**

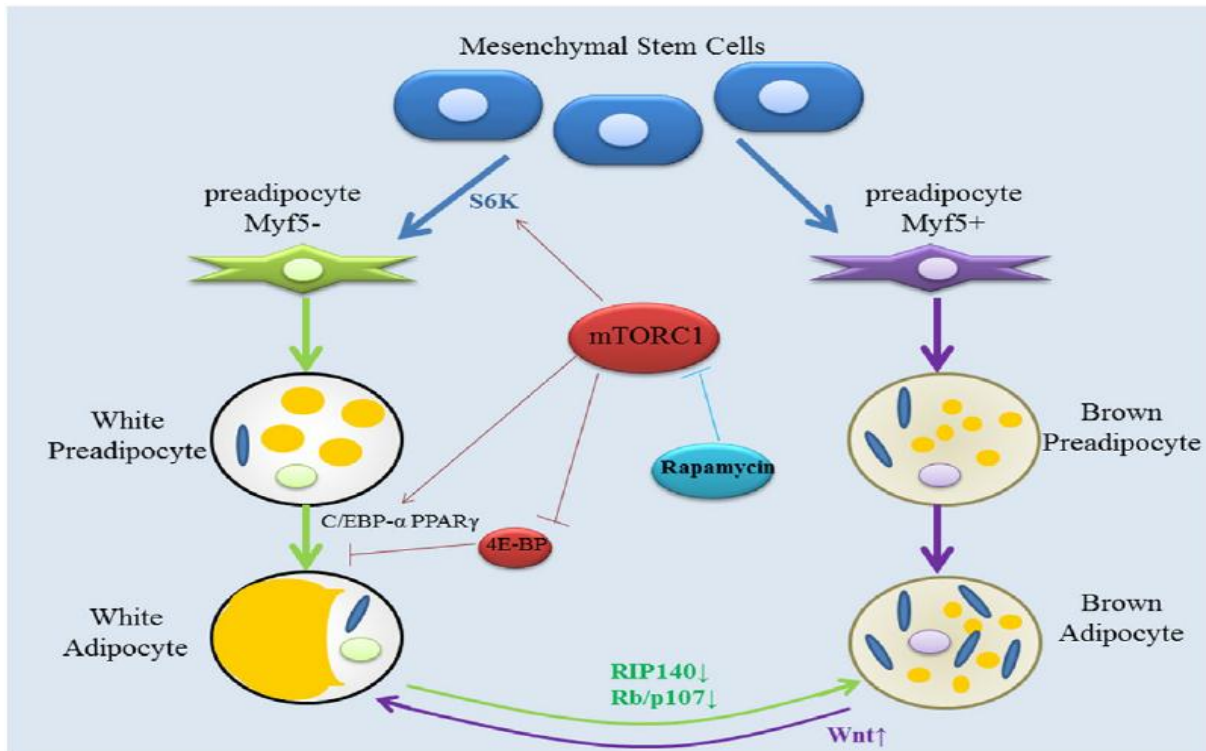
Fat mass is distributed differently in men and women. The **android or male pattern** is characterized by fat distributed predominantly in the upper body above the waist, whereas the **gynoid or female pattern** shows fat predominantly in the lower body, which is lower abdomen, buttocks, hips and thighs.

Upper body fat deposition tends to occur primarily by hypertrophy of the existing cells whereas lower body fat deposition is by differentiation new fat cells, ie, hyperplasia.

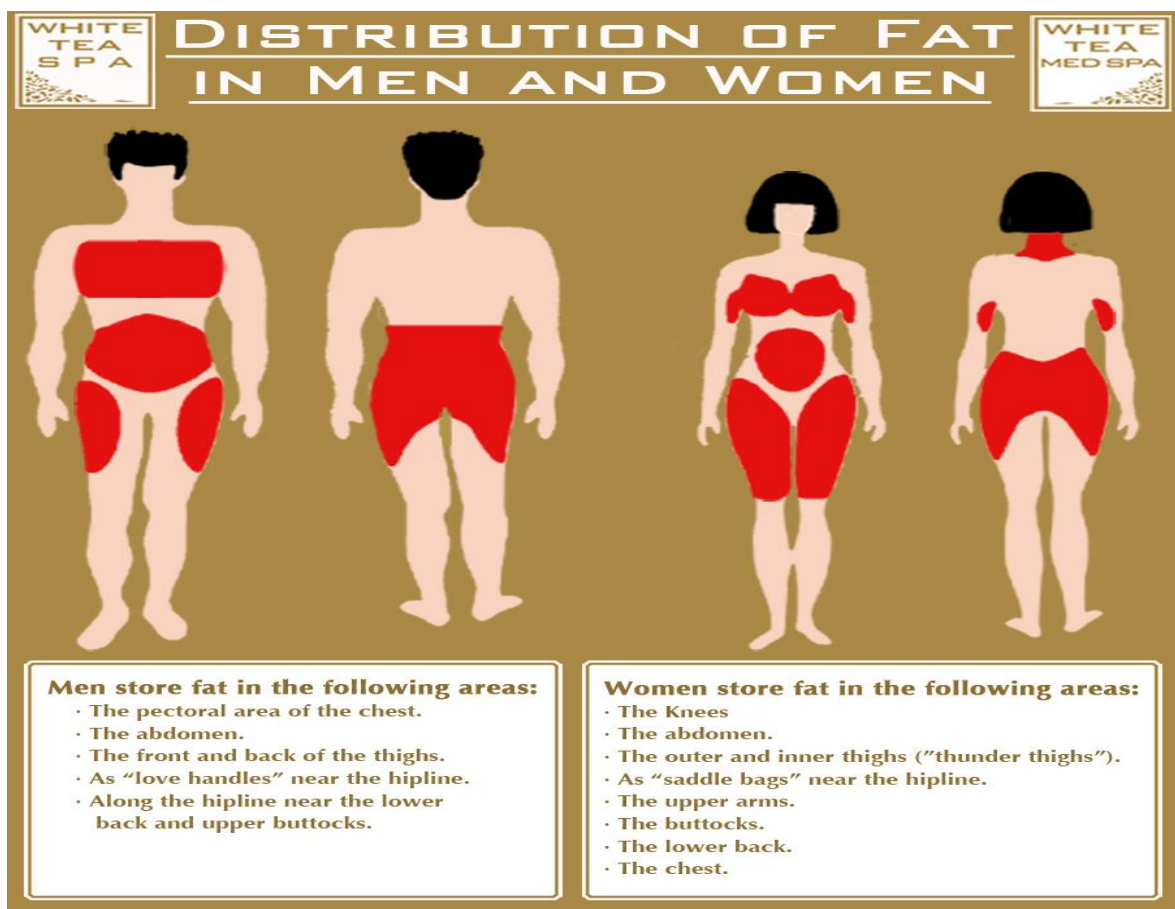
### **Nerve Supply**

Fine nerve fibers can be demonstrated in the intra-cellular substance of adipose tissue, where they closely approach fat cells.

## Growth and Development of Fat Cell



## Regional Distribution of Fat



Adipose tissue approximately constitutes 85% of fat, 11-13% water 2% protein with a caloric density of 9 k.cal per kg.

## **Functions of Adipose tissue**

- If forms soft elastic pads between organs and parts, holding structures in place, some pads act as shock absorbers.
- If serves as a buffer tissue, as in bursae.
- Fat is an efficient insulator against cold that is body heat is retained.
- It has a cosmetic value by padding hollows and softening angles of the body.
- Tendency of fat to accumulate in belly and buttocks is that the mesenchymal cells of the part are differentiated in such a way as to provide in these locations for a generous supply of cells which have a special ability to store fat.

## **Regenerative Ability**

The loose connective tissues, as a group repair losses well. Reserve mesenchymal cells proliferate and differentiate into fibroblastic types.

Fat cells do not divide; new fat cells differentiate from reserve mesenchymal elements.

## **Adipose Tissue as an Endocrine Gland**

Adipocytes synthesize and release a variety of peptide and non-peptide compounds; they also express other factors, in addition to their ability to store and mobilize triglycerides, retinoid and cholesterol. The important finding that adipocytes secrete leptin as the product of the ob gene has established adipose tissue as an endocrine organ that communication with the central nervous system.

### **A. Secreted Proteins and Triglyceride Metabolism**

#### **1. Lipo Protein Lipase (LPL)**

LPL is the key regulator of fat cell triglyceride deposition from circulating triglycerides. LPL is found in the luminal surface of the endothelial cells. Insulin is possibly having a positive role in the secretory process. Genes encoding LPL were not differentially expressed in omental when compared with subcutaneous adipocytes. The omental/subcutaneous LPL mRNA ratio was higher in men than in women.

A well-known steroid induced adipose redistribution (especially in the abdomen) may be caused by increases in LPL, which would lead to a preferential distribution of plasma triglyceride fatty acids to the abdominal depot.

## 2. Acylation- Stimulating Protein (ASP)

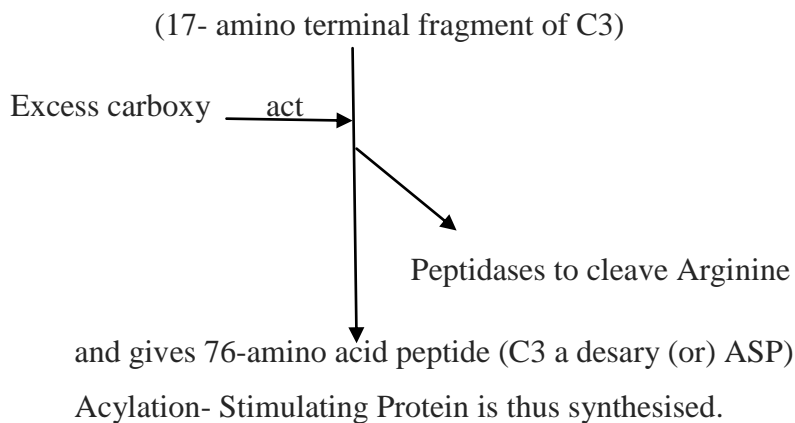
ASP is considered the most potent stimulant of triglyceride synthesis in human adipocytes. Its generation is as follows,

Adipocytes secrete 3 proteins,

1) C3

2) Factor B

3) Factor D (adispin) → produces C3a



From Adipocytes → ASP is produced

This ASP → Adipocytes to increase triglycerides synthesis  
act back on

As fatty acids are being liberated from triglyceride rich lipoproteins and chylomicrons, as the result of the LPL, ASP is also generated and triglycerides synthesis is increased.

Omental obesity may represent an example of impaired activity of the ASP pathway. Omental adipose tissue, as compared with subcutaneous fat tissue, would have a limited capacity to prevent fatty acids from reaching the liver, which may contribute to the abnormalities in metabolism observed in visceral obesity.

## **B. Secreted Proteins and Cholesterol and Retinoid Metabolism**

### **1. Cholesteryl – Ester Transfer Protein (CETP)**

Human adipose tissue is rich in CEPT mRNA, probably one of the major sources of circulating CETP in humans.

ie, CETP helps in cholesterol transport,



The synthesis and secretion of CETP in adipose tissue is increased by fasting, high cholesterol or saturated fat diet. The CETP activity of omental adipose tissue is greatly increased in comparison with subcutaneous fat.

### **2. Retinol Binding Protein (RBP)**

Adipose tissue is importantly involved in retinoid storage and metabolism. RBP is synthesized and secreted by adipocytes, the rate of RBP gene transcription being induced by retinoic acid.

The mRNA encoding RBP is expressed at a relatively high level in adipocytes with no difference between subcutaneous and omental fat cells. There are no data regarding retinol mobilization from adipose stores in humans.

## **C. Protein Related to Blood Coagulation**

### **1. Plasminogen Activator Inhibitor-1(PAI-1)**

The increased gene expression and secretion of PAI-1 by adipose tissue contribute to its elevated plasma levels in obesity. Omental adipose tissue explants produced significantly more PAI-1 antigen than did subcutaneous tissue from the same individual.

## **D. Secreted Factors with an Endocrine Function**

### **1. Estrogens**

P450 aromatase activity in adipose tissue is important for estrogen production, which may have a paracrine role, since, as previously indicated, estrogen receptors are expressed in human adipose tissue. The conversion rate of androstenedione to oestrone increases as a function of aging and obesity due to an increase in adipose tissue p450 aromatase transcript levels, highest in the buttocks, next highest in the

thighs and significantly greater in women with lower (gynoid) obesity than upper (android) body obesity.

The aromatase enzyme responsible for transforming androstenedione into oestrone is present in non-endocrine tissue, particularly adipocytes and adipose stromal cells, the level of aromatase activity in stromal cells being greater than that in adipocytes. It was shown that within abdominal subcutaneous stromal cells (preadipocytes), there are intrinsic gender differences in the regulation of aromatase by insulin+cortisol, which is specific for females.

Mature adipocytes express aromatase, which is stimulated by insulin+cortisol in both sexes. Insulin and cortisol independently induce preadipocytes differentiation with both having a synergistic effect. The intrinsic gender differences in preadipocytes could contribute to a gender-specific pattern of fat distribution.

## **2. Leptin**

Leptin is the product of the obesity (ob) gene, which is expressed in adipocytes. The human ob gene spans approximately 20kb and exists in a single copy on chromosome 7q32.1; it consists of 3 exons and 2 introns; with the leptin open reading frame formed from the 3'-end of exon 2 and the 5' end of exon 3.

Several studies in rodents suggest that leptin acts as a signalling factor from adipose tissue to the central nervous system, regulating food intake and energy expenditure. In humans, leptin secretion is a reflection of fat hypertrophy.

The adipocyte is the only known source of the ob gene product, leptin as the preadipocytes do not present this capacity. Leptin mRNA was greater in subcutaneous than in omental adipocytes. Furthermore, leptin expression and levels increase as the size of the adipose tissue triglyceride stores increase.

Leptin secretion rate and leptin mRNA expression were about 2 to 3 times higher in the subcutaneous than in the omental fat tissue in both obese and non-obese subjects. The subcutaneous fat depot is the major source of leptin in women owing to the combination of a mass effect, since subcutaneous adipose tissue is the major fat depot presenting a higher secretion rate due to enlarged cell size (subcutaneous adipocytes were 50% larger than omental fat cells) and increased expression of the leptin gene.

The secretion of leptin by adipocyte is regulated by nutritional and hormonal factors.



An increase in caloric intake results in a sharp increase in serum leptin. Leptin concentrations in humans exhibit a sexual dimorphism, with circulating levels being higher in women than men.

### **Classification of Distribution of Excess Body Fat in General**

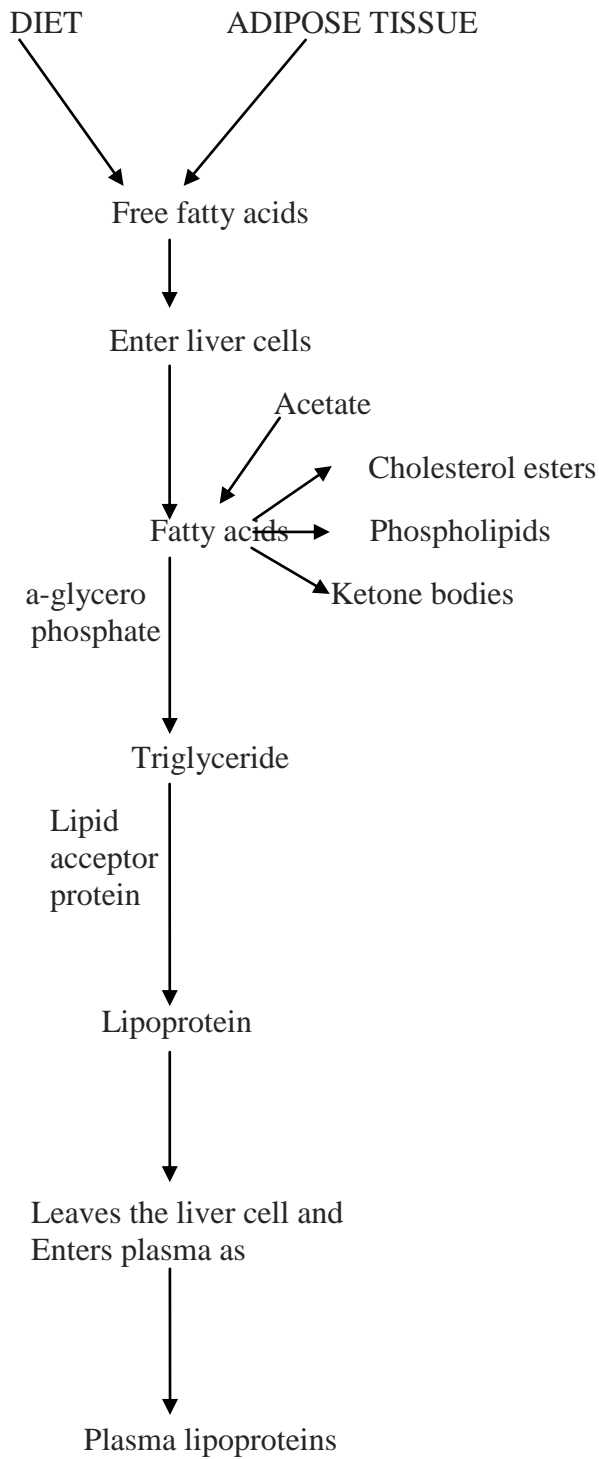
Excess body fat can be evenly spread across the body (or) concentrated with in certain areas.

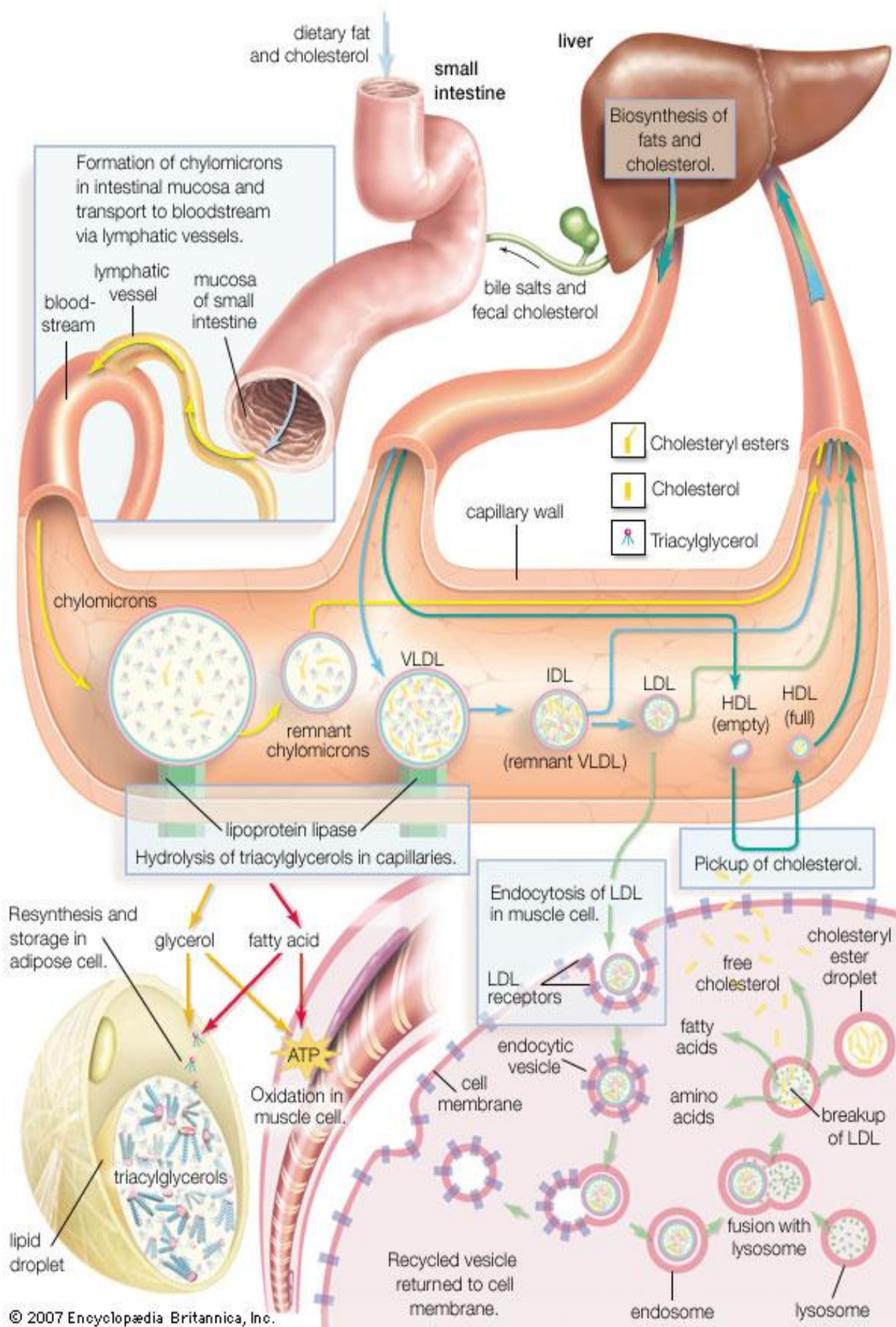
**Type I** : ‘Harmonious’ distribution of obesity across the body

**Type II** : ‘Gynoid obesity’ where the fat is concentrated on the lower part of the body (hip-pelvis) associated with lower medical risk.

**Type III:** ‘Visceral obesity’ fat is seen in internal organs, such as abdominal viscera. Therefore it is less obvious to eye, but highest health risks may arise in long term.

**Type IV:** ‘Android obesity’ concentrated on trunk of the body. It is generally dangerous, the male type.

**Plasma Lipoprotein Synthesis**



### Five types of plasma lipoproteins

- |    |      |   |                                  |
|----|------|---|----------------------------------|
| 1. | CM   | ⇒ | Chylomicrons                     |
| 2. | VLDL | ⇒ | Very low density lipoprotein     |
| 3. | IDL  | ⇒ | Intermediate density lipoprotein |
| 4. | LDL  | ⇒ | Low density lipoprotein          |
| 5. | HDL  | ⇒ | High density lipoprotein         |

Dietary fat is ingested largely as long chain triglycerides, the absorption of which is a complex process involving the pancreas, liver, small intestine and lymphatic.

Some triglycerides digestion begins in the stomach by lingual and gastric lipases. Triglycerides is emulsified in the stomach and fat is slowly emptied in to the duodenum, where its entry and that of acid, release cholecystokinin-pancreozymin and secretin.

As a result, the pancreas secretes enzymes and bicarbonate and gallbladder contracts to release bile salts. Bicarbonates maintain the pH of the intestinal lumen above 4, allowing pancreatic lipase to be effective in hydrolysis of triglycerides to yield free fatty acids and monoglycerides.

Another pancreatic protein co-lipase facilitates the interaction between lipase and triglycerides for effective lipolysis. Fatty acids and monoglycerides interact with conjugated bile salts to form molecular aggregates (or) micelles. A critical concentration of bile salts for micelle formation (5 to 15  $\mu\text{mol/ml}$ ) is maintained by a very efficient enterohepatic circulation of bile salts.

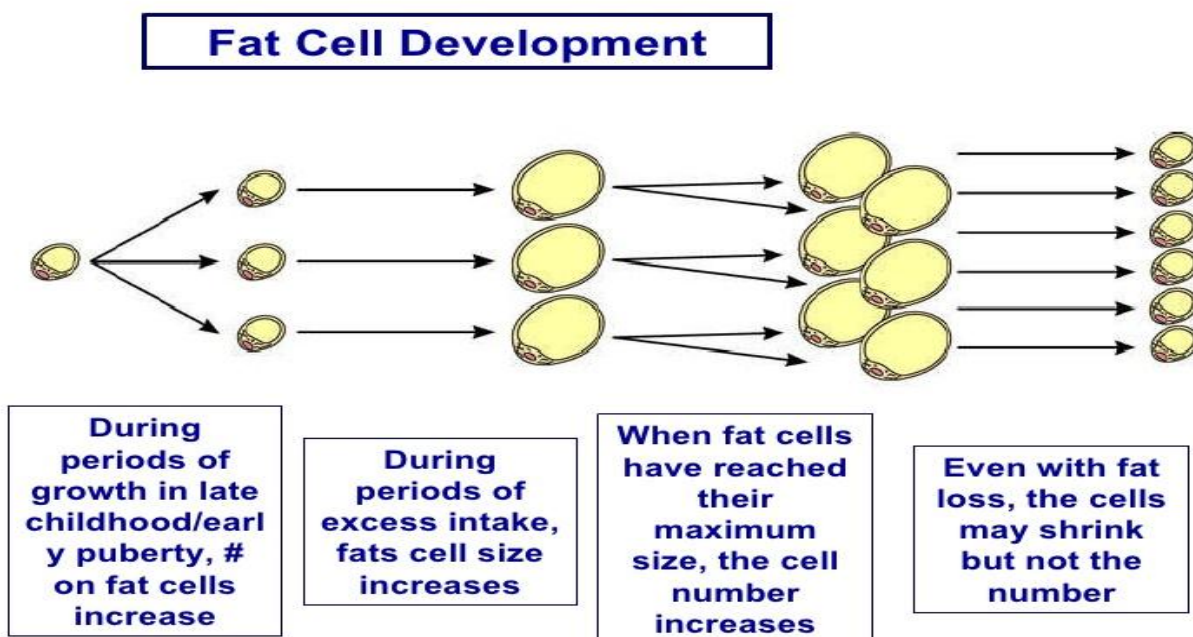
Micellar fat passes through the 'unstirred' water layer covering the surface of the enterocyte. Because of their solubility in the lipid rich surface membrane, the fatty acids and monoglycerides are released and diffuse in to the enterocyte. Fatty acids – binding protein (low molecular weight cytosolic protein) avidly binds long chain fatty acids in the enterocyte and transports them to the smooth endoplasmic reticulum, where they are re-esterified with monoglyceride to them triglyceride.

Absorbed cholesterol is also largely esterified with fatty acids for optimal transport. The intestine must also synthesize phospholipids and specific proteins (apo proteins) in order to incorporate these nonpolar lipids into lipoproteins, the major transport vehicles for fat transport in lymph and plasma.

These polar components are added to the surface of lipid droplet, producing lipoproteins called chylomicrons. Chylomicrons are concentrated in the Golgi apparatus and then discharged through the lateral basal portion of the cell to the interstitial and mesenteric lymph to be delivered via the thoracic duct to the venacava.

Fat cells (adipocytes) form a reservoir of energy that expands or contracts according to the energy balance of the organism. Fat cells develop from precursor preadipocytes to accommodate excess nutrient calories. Adipocytes gradually increase in volume to about 1 $\mu$ g of mass, at which point little further enlargement seems to be possible. With continuing positive energy balance, new adipocytes form from precursor cells and the total cell number increases. Adipocytes can increase their number in an unlimited fashion, so that fat mass can reach huge dimensions through hyperplasia.

Once fat cells are formed, it is difficult to differentiate them. This has been termed the ‘**ratchet effect**’, because a ratchet turns in only one direction. Even though weight may be lost, fat cell numbers remain fixed. As a result, fat cell size reverts towards normal and with sustained weight loss may actually go below normal.



What the stimulus is for the differentiation of preadipocytes into adipocytes is unknown. Adipose tissue lipoprotein lipase (LPL) may be involved. LPL acts on circulating chylomicrons and VLDL, activating the breakdown of triglyceride to glycerophosphate and free fatty acids (FFA). The FFA can then enter adipocytes, be re-esterified to triglycerides and be stored. Adipose tissue LPL activity is high in obesity.

## DEFINITION

The World Health Organization (WHO-1997) defined; obesity is an abnormal or excessive fat accumulation that may impair health.

## PREVALANCE

Obesity, though said to be as a consequence of malnutrition, it plays a key risk factor in the natural history of other chronic and non-communicable disease.

If affects 20-40% of adults 10-20% of children and adolescents in developed countries.

The Nutrition Foundation of India (NFI), study showed that 32.3% of middle class males and 50% of middle class female in India were obese.

## PATHOLOGICAL CLASSIFICATION OF EXCESS BODY FAT

### 1. Hypertrophic obesity

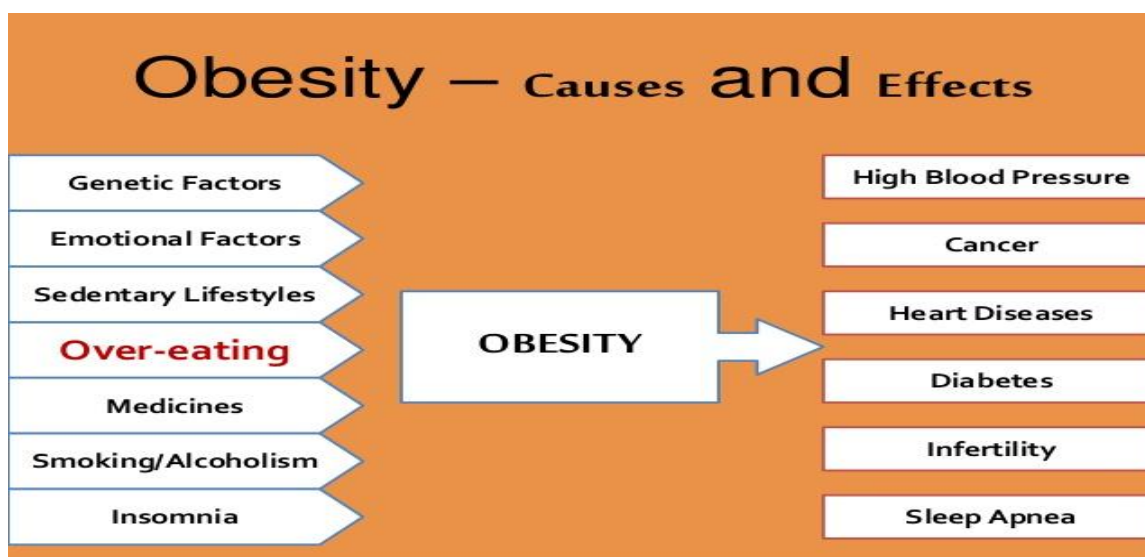
Enlargement of fat cell size, without increase in adipose cell number.

### 2. Hyperplasic obesity

Increase in adipose cell number, as well as increase in adipose cell size.

## AETIOLOGY OF OBESITY

In a few cases of obesity, specific causal factors can be identified and treated. However, for the most part, the aetiology of obesity arises from a complex interplay of behavioural and genetic factors.

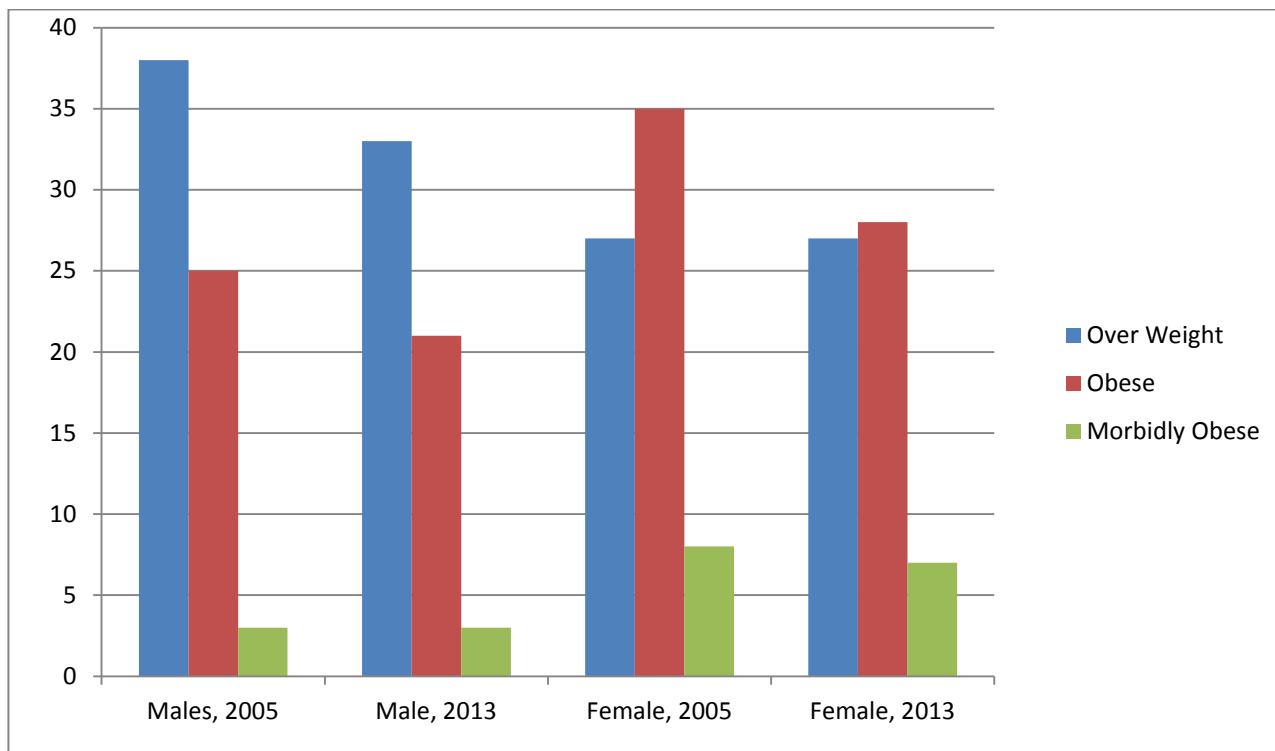


- **Genetics:** Your genes may affect the amount of body fat you store, and where that fat is distributed. Genetics may also play a role in how efficiently your body converts food into energy and how your body burns calories during exercise.
- **Family lifestyle:** Obesity tends to run in families. If one or both of your parents are obese, your risk of being obese is increased. That's not just because of genetics. Family members tend to share similar eating and activity habits.
- **Inactivity:** If you're not very active, you don't burn as many calories. With a sedentary lifestyle, you can easily take in more calories every day than you burn through exercise and routine daily activities. Having medical problems, such as arthritis, can lead to decreased activity, which contributes to weight gain.
- **Unhealthy diet:** A diet that's high in calories, lacking in fruits and vegetables, full of fast food, and laden with high-calorie beverages and oversized portions contributes to weight gain.
- **Medical problems:** In some people, obesity can be traced to a medical cause, such as Prader-Willi syndrome, Cushing's syndrome and other conditions. Medical problems, such as arthritis, also can lead to decreased activity, which may result in weight gain.
- **Medications:** Some medications can lead to weight gain if you don't compensate through diet or activity. These medications include some antidepressants, anti-seizure medications, diabetes medications, antipsychotic medications, steroids and beta blockers.
- **Social and economic issues:** Research has linked social and economic factors to obesity. Avoiding obesity is difficult if you don't have safe areas to exercise. Similarly, you may not have been taught healthy ways of cooking, or you may not have money to buy healthier foods. In addition, the people you spend time with may influence your weight — you're more likely to become obese if you have obese friends or relatives.
- **Pregnancy:** During pregnancy, a woman's weight necessarily increases. Some women find this weight difficult to lose after the baby is born. This weight gain may contribute to the development of obesity in women.
- **Quitting smoking:** Quitting smoking is often associated with weight gain. And for some, it can lead to enough weight gain that the person becomes obese.
- **Lack of sleep:** Not getting enough sleep or getting too much sleep can cause changes in hormones that increase your appetite. You may also crave foods high in calories and carbohydrates, which can contribute to weight gain.



## AGE AND SEX DISTRIBUTION

Accumulation of adipose tissue may occur at any age, but is more common in middle. Adult women are more prone for obese when compared to men.



**Women are more obese than men**  
**(Incidence increases with respective years)**

## AGE

The number of fat cells increases proportionally to the size of the body during childhood and puberty. After the cessation of body growth, the number of fat cells appears to remain constant. But, under extreme circumstances, there is also recruitment of new adipocytes irrespective of age, from pre adipocytes, i.e., undifferentiated mesenchymal cells, that have a capacity of storing fat.

## SEX

With increasing age right from childhood, the fat cells enlarge in size in the case of male, where as the cells shows hyperplasia, i.e., the fat cell increase in number along with enlargement in the case of female.

*So, the females are more prone for obese than the males.*



Even if you have one or more of these risk factors, it doesn't mean that you're destined to become obese. You can counteract most risk factors through diet, physical activity and exercise, and behaviour changes.

### **Fats are prone to store in large amounts than the carbohydrates and proteins why,**

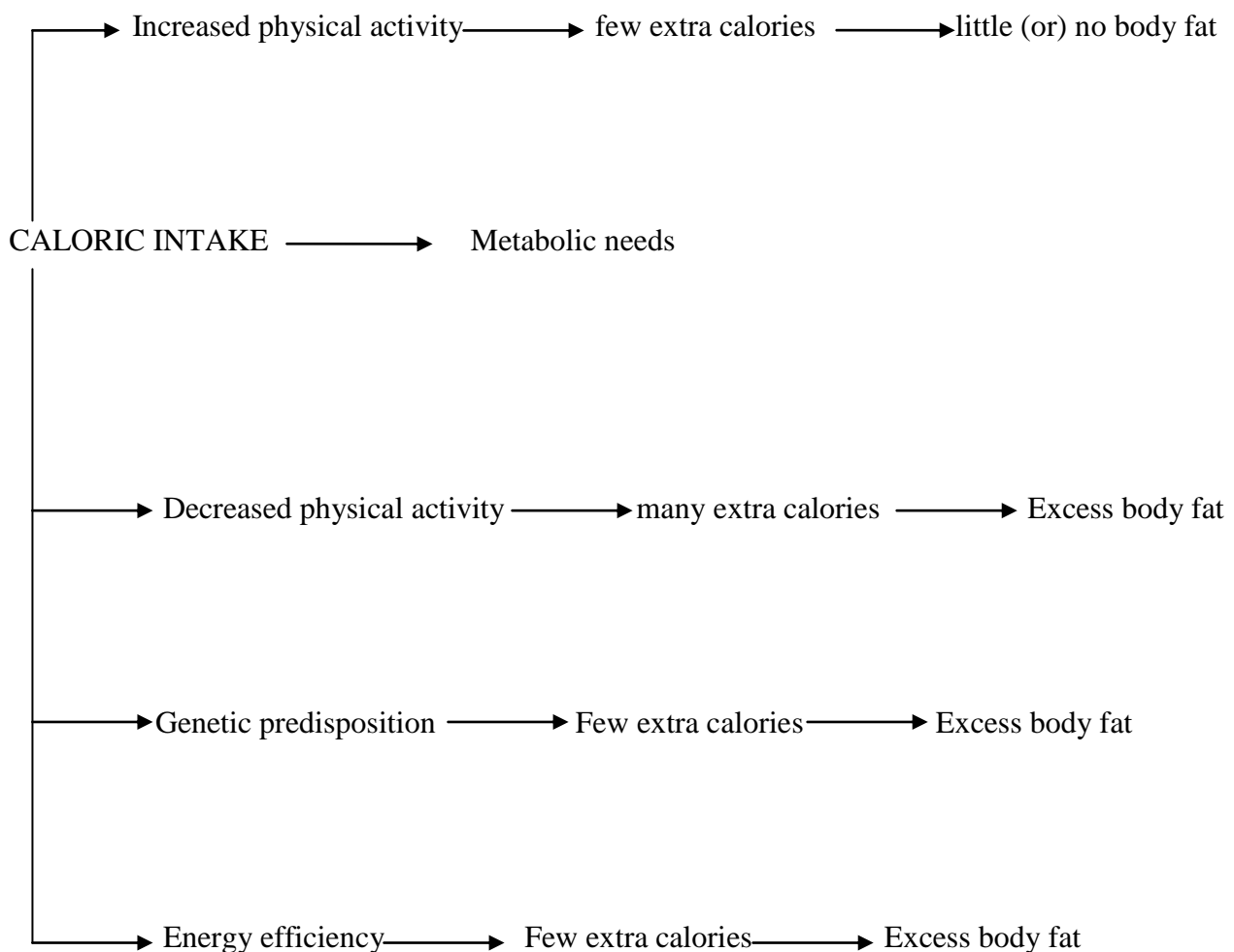
Because, in contrast to carbohydrates and proteins that require water for storage, fat can be stored in cells without additional water.

Increased fatty synthesis occurs when there is a rich supply of calories and no outlet for them. Carbohydrates and protein deposits have a maximum limit, where as fat may be deposited almost 'ad infinitum' in the omentum, the subcutaneous tissue, the retroperitoneal space etc.

Fat is very economic form of energy storage because of its high caloric value (1gm gives 9 k.cal) and low water content.

### **Imbalance between caloric intake and expenditure resulting in obesity**

A loss of equilibrium between energy synthesized by food and its expenditure in metabolism is at basic cause for obesity.



## A. ENERGY INTAKE

Obesity has been regarded as an eating disorder for centuries, but the presumed eating abnormality has been difficult to document.

Hyperphagia is the striking cause of obesity. It is also difficult to agree on what constitutes abnormal intake, since the range of caloric intake varies greatly even in lean individuals.

Possibly, obese persons are unduly attracted by the hedonic aspects of food, (or) they have insensitive central reception centers for the feedback signals.

## B. ENERGY EXPENDITURE

### 1. Resting Metabolic expenditure

Obese individuals may gain weight because they are 'thrifty' i.e., less ingested nutrient is spent as heat and thus more is available for storage.

**Thermogenesis** can be divided into three components,

- Resting Metabolic Rate (RMR)
- Thermic Effect of Food (TEF) and
- Thermic Effect of Exercise (or) activity (TEE).

RMR is the energy expended in the post absorptive state to drive basic life-supporting process under thermo neutral conditions. RMR, expressed a total amount of energy spent per unit time is higher in obese persons than in lean ones.

### 2. Expenditure in Activity

The obese expend more energy during physical activity, since an obese person is moving a greater load through space, whether walking, running (or) climbing stairs. Thus more Kcal of energy are expended.

## BASAL METABOLIC RATE

The term Basal Metabolic Rate may be defined as the heat produced per unit time under basal condition i.e., at complete physical and mental rest, in the post absorptive state which means, 14 to 18 hours after taking food.

### EQUATIONS FOR ESTIMATING BASAL METABOLIC RATE (BMR)

#### Men

31-60 years =  $(0.0484 \times \text{actual weight in kg} + 3.6534) \times 240 \text{ kcal/day}$

#### Women

31-60 years =  $(0.0342 \times \text{actual weight in kg} + 3.5377) \times 240 \text{ kcal/day}$

### ESTIMATED TOTAL ENERGY NEEDS

**Energy expenditure = BMR  $\times$  activity factor**

#### Activity Level

#### Activity Factor

Low (sedentary)

1.3

Intermediate (some regular exercise)	1.5
High (regular activity or demanding job)	1.7

### **3. Expenditure after Food**

Food is an important thermogenic stimulant, since it generates heat as it is metabolized. Because of this, a fed person has a higher metabolic rate than a fasting one. This elevation of post prandial metabolic rate above basal has been called the Thermic Effect of Food.

In summary, RMR is higher once obesity is present. Thermogenic responses to ordinary stimuli (food, stress, cold) are small per se.

### **4. Expenditure after over Feeding**

A deficient ability to burn off excess calories has been documented in obese.

### **SET POINT**

Set point is a point at which the person may feel that the feeding is enough satisfying satiety. The concept of a 'set point' of body weight suggests that each person has a control system that 'sets' how much weight (or) alternatively how much fat, he (or) she should have. How the control system is regulated, that is where the feedback signals from 'weight' or 'fat' originate and how they might be transmitted (humoral, neural, both) to the hypothalamic feeding and satiety areas are totally unknown.

The set point theory has been used to suggest that exercise and some drugs lower set point and most palatable food raise it.

### **SEX HORMONES AND OBESITY**

Fatty tissue composed of adipose cells loaded with aromatase enzymes that convert **testosterone** to estrogen.

Excessive levels of unmetabolized estrogen (estradiol, estrone and 16 hydroxyestrone measured by simple urine test) in the blood and tissues will cause gaining fat.

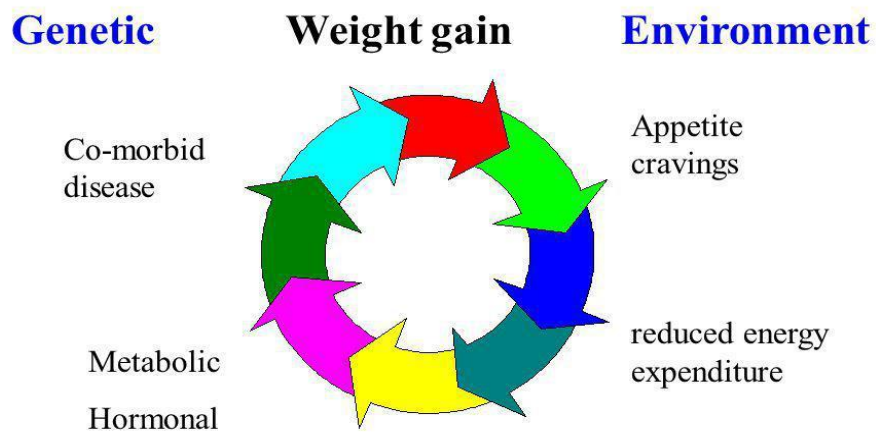
Estrogens are not elevated in obese pre-menopausal women probably because the amount of estrogen conversion by the adipose tissue is small in comparison with regular ovarian estradiol production.

Estrogens are elevated in postmenopausal-obese women, most likely owing to increased peripheral conversion of the prohormone androstenedione to estrone.

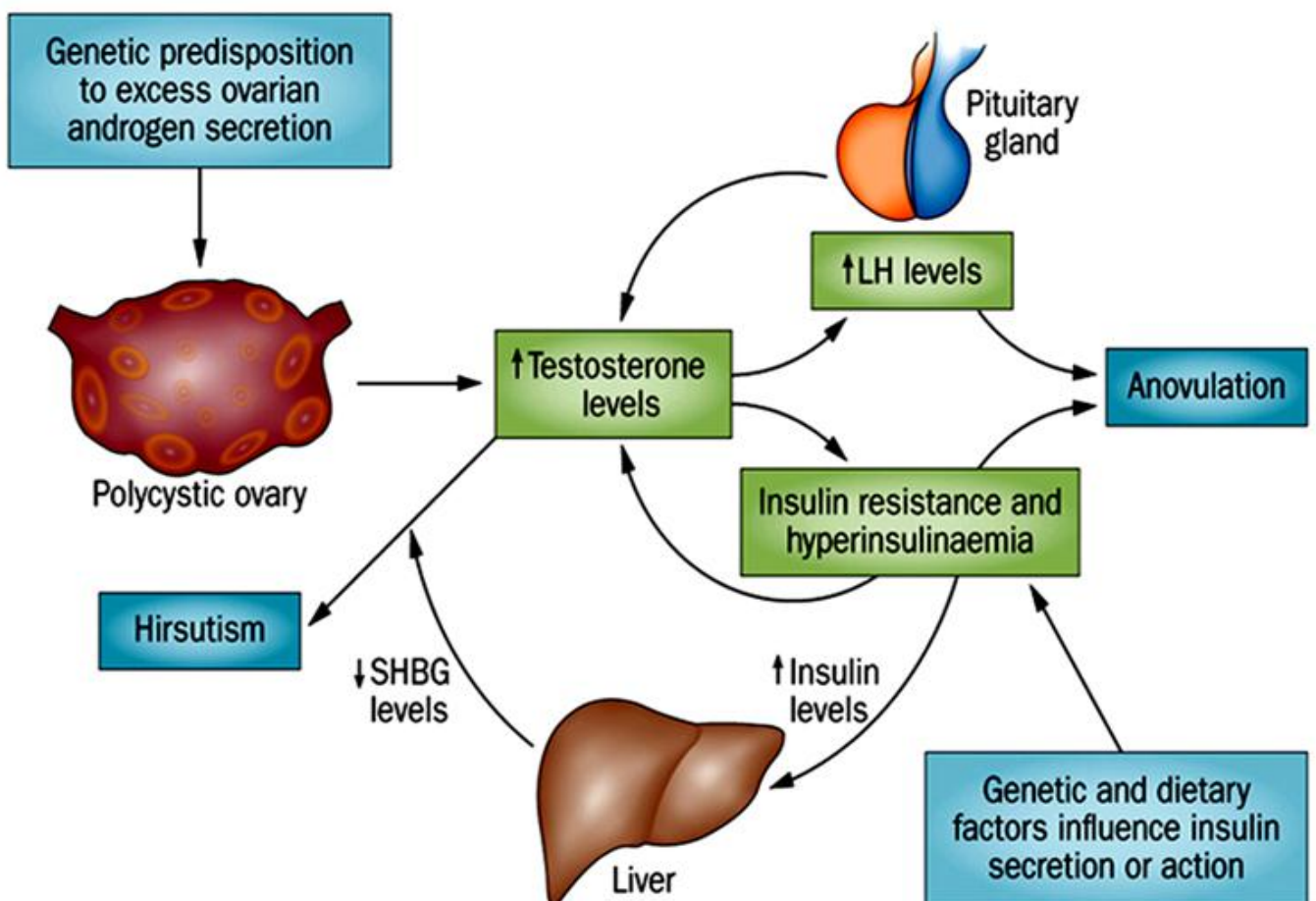
These are differences in the androgen-estrogen environment in persons with upper and lower body obesity. This is more clearly defined in women. Women with UBO have higher androgen production rates and higher concentration of testosterone and estradiol levels than those with LBO. They also have decreased levels of Sex Hormone Binding Globulins (SHBG). So the free testosterone concentration is higher.

Women with UBO have increased estrone from peripheral aromatization of circulating androgens.

# Weight Gain Cycle



## SEX HORMONES & OBESITY



# ASSESSMENT OF OBESITY

Structurally speaking, the state of obesity is characterized by an increase in the fatty mass at the expense of the other parts of the body.

The most widely used criteria are,

## 1. Ideal Body Weight (IBW)

$$IBW = 22.5 \times (\text{Height in meters})^2$$

Overweight  $\Rightarrow$  More than 10% of IBW

Underweight  $\Rightarrow$  Less than 20% of IBW

Obesity  $\Rightarrow$  More than 20% of IBW

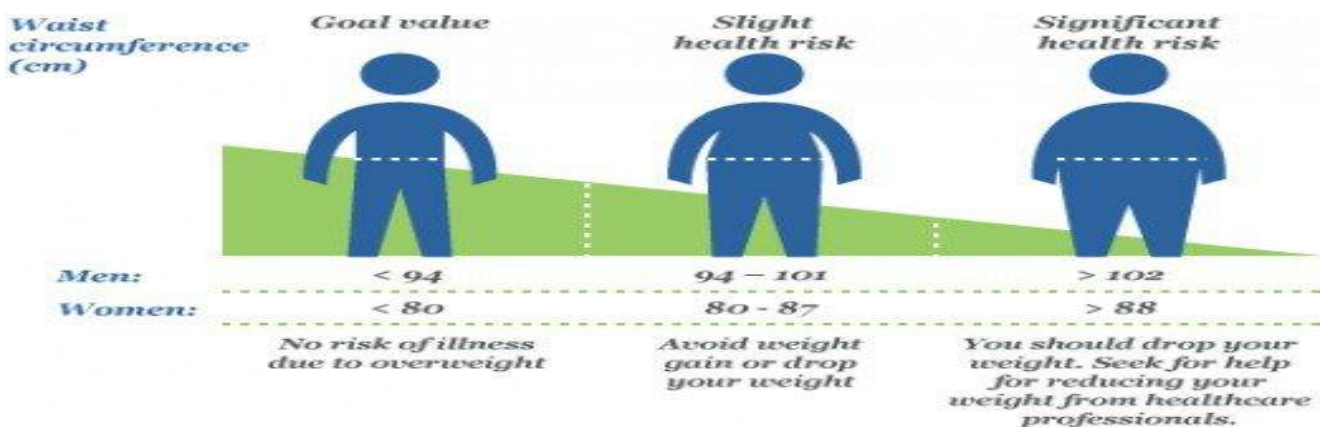
## 2. Body Mass Index (Quetelet's Index)

$$BMI = \frac{\text{Weight in kg}}{(\text{Height in meters})^2}$$

CLASSIFICATION	WHO Guidelines	Asia Pacific Guidelines
Underweight	< 18.5	< 18.5
Normal	18.5 – 24.9	18.5 – 22.9
Overweight	25.0 – 29.9	$\geq 23$
At risk	-	23 – 24.9
Obesity	<b>30.0 – 34.9</b> (Obesity Class I)	<b>25.-29.9</b> (Obesity Class I)
	<b>35.0 – 39.9</b> (Obesity Class II)	$\geq 30$ (Obesity Class II)
Extreme Obesity	$\geq 40$ (Obesity Class III)	-

## 3. Waist Circumference

Waist circumference alone is enough to assess the prognosis in obesity.



#### 4. Waist Hip Ratio

$$\text{WHR} = \frac{\text{Waist Circumference}}{\text{Hip Circumference}}$$

Waist → Measurement of narrowest segment between ribcage and iliac crest.

Hip → Maximal measurement of hip over the buttocks.


**Waist to Hip Ratio (WHR)**

❑ Waist to Hip Ratio is an effective way to examine regional fat distribution.

HEALTH RISK	MEN	WOMEN
High Risk	> 1.0	> .85
Moderate Risk	.90 -1.0	.80-.85
Low Risk	< .90	< .80

❑ WHR is not considered to be as valid for

- Children.....
- People who are under five feet tall or.....
- Who have a body mass index (BMI) of 35 or above.



#### 5. Broca's Index

Broca's index is useful in rough calculation of body weight.

$$\text{Height in inches} = \text{Weight in kg}$$

$$\text{Height in cms}-100 = \text{Desired body weight in kg.}$$

#### 6. Corpulence Index

$$\text{Corpulence index} = \frac{\text{Actual Weight}}{\text{Desirable Weight.}}$$

This should not exceed 1.2

#### 7. Skin Fold Thickness

It can be estimated by using special pair of callipers over the triceps, biceps, sub scapular and supra iliac region.



## COMPLICATIONS

If obese, are more likely to develop a number of potentially serious health problems, including:

- **High triglycerides and low high-density lipoprotein (HDL) cholesterol**
- **Type 2 diabetes**
- **High blood pressure**
- **Metabolic syndrome — a combination of high blood sugar, high blood pressure, high triglycerides and low HDL cholesterol**
- **Heart disease**
- **Stroke**
- **Cancer, including cancer of the uterus, cervix, endometrium, ovaries, breast, colon, rectum, oesophagus, liver, gallbladder, pancreas, kidney and prostate**
- **Breathing disorders, including sleep apnoea, a potentially serious sleep disorder in which breathing repeatedly stops and starts**
- **Gallbladder disease**
- **Gynaecological problems, such as infertility and irregular periods**
- **Erectile dysfunction and sexual health issues**
- **Non-alcoholic fatty liver disease, a condition in which fat builds up in the liver and can cause inflammation or scarring**
- **Osteoarthritis**

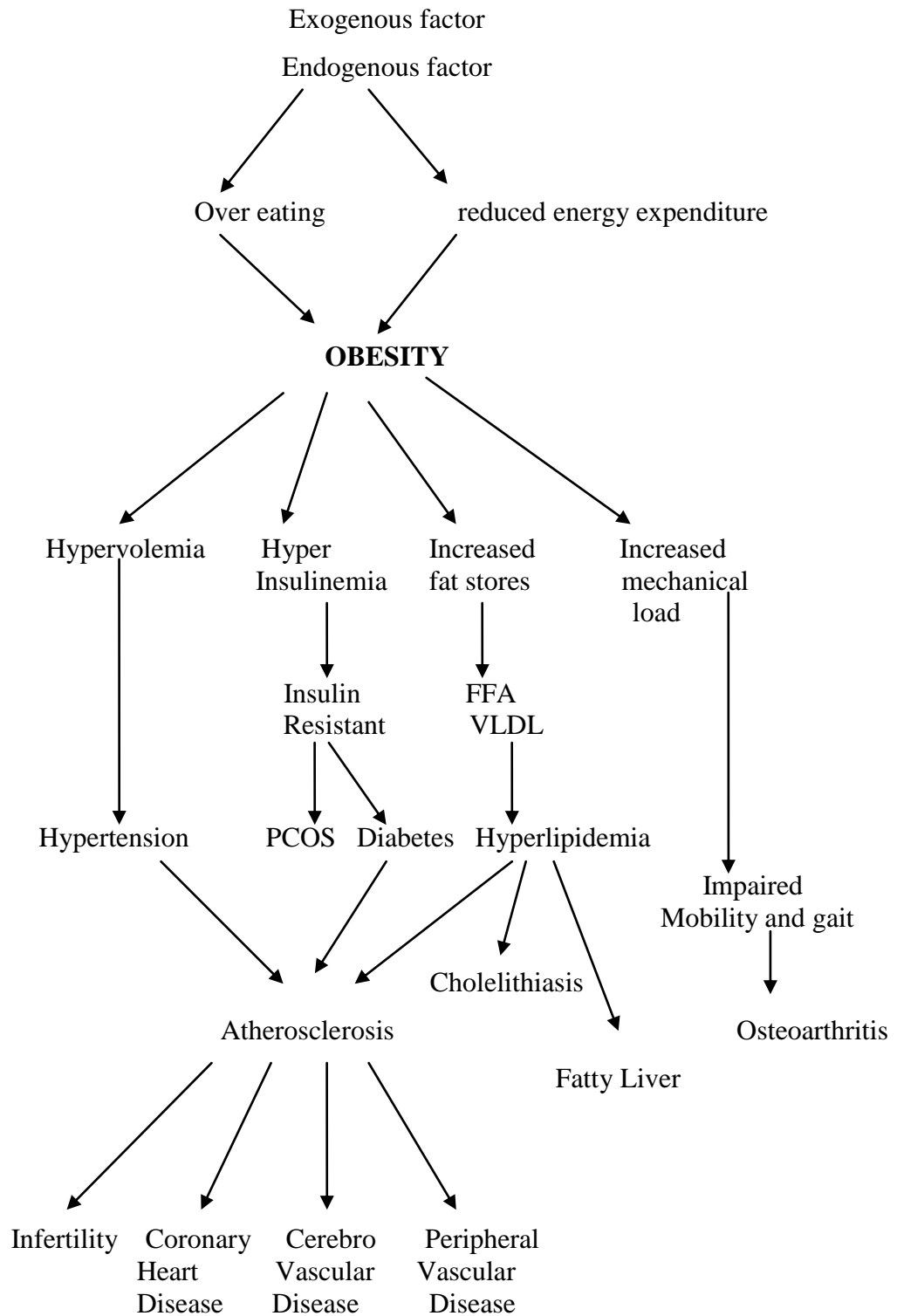
### Quality of life

When obese, overall quality of life may be diminished. You may not be able to do things used to do, such as participating in enjoyable activities. May avoid public places. Obese people may even encounter discrimination.

Other weight-related issues that may affect your quality of life include:

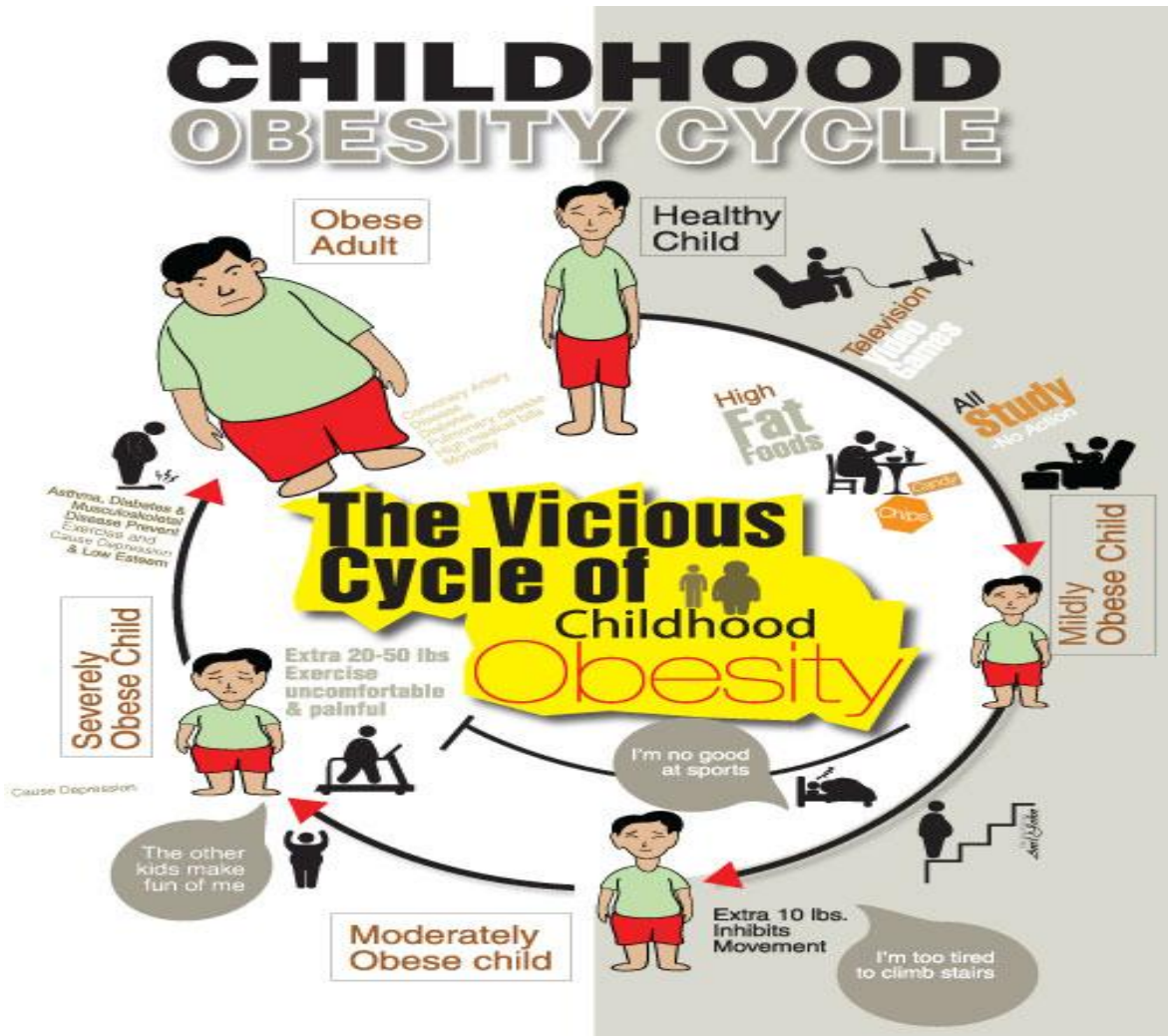
- **Depression**
- **Disability**
- **Sexual problems**
- **Shame and guilt**
- **Social isolation**
- **Lower work achievement**

## GENERAL COMPLICATIONS IN OBESITY

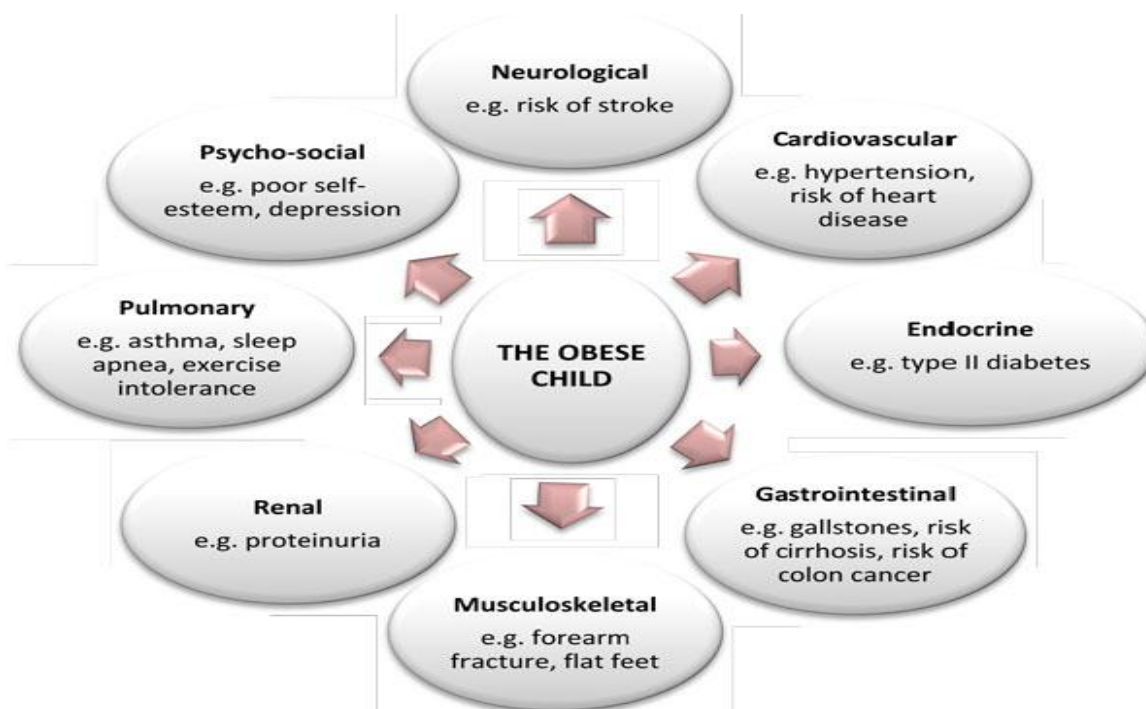




## CHILDHOOD OBESITY



## CHILDHOOD OBESITY COMPLICATIONS



# OBESITY MANAGEMENT & TREATMENT

Obesity treatment strategies vary from person to person. Beginning treatment early is an essential part of success, and it is important to talk with physician before beginning any weight-loss program. There are several methods for treating obesity, such as behaviour modification, physical activity, non-clinical weight management programs, medically managed weight-loss and surgical treatment.

## **Behaviour Modification**

Behaviour plays a significant role in obesity. Modifying behaviours that have contributed to developing obesity is one way to treat the disease either alone or in conjunction with other treatments. A few suggested behaviour modifiers include: changing eating habits, increasing physical activity, becoming educated about the body and how to nourish it appropriately, engaging in a support group or extracurricular activity and setting realistic weight management goals.

## **Physical Activity**

Increasing or initiating a physical activity program is an important aspect in managing obesity. Today's society has developed a very sedentary lifestyle and routine physical activity can greatly impact your health. Set realistic goals and make sure to consult with physician before initiating any exercise program.

## **Medically Managed Weight-Loss**

Medically managed weight-loss programs provide treatment in a clinical setting with a licensed healthcare professional, such as a medical doctor, registered dietician and/or psychologist. These programs typically offer services such as prescription of weight-loss medications, nutrition education, physical activity instruction and behavioural therapy.

## **Surgical Treatment**

Surgical treatment of obesity is an option for those who are classified as morbidly obese. Morbid obesity is defined as a patient having a BMI of 40 or greater, or weighing more than 40 kilograms over their ideal body weight. In addition, a patient with a BMI of 35 or greater with one or more obesity-related diseases is also classified as morbidly obese.

## WEIGHT-LOSS SURGERY

- **Gastric bypass surgery:**

In gastric bypass (Roux-en-Y gastric bypass), the surgeon creates a small pouch at the top of your stomach. The small intestine is then cut a short distance below the main stomach and connected to the new pouch. Food and liquid flow directly from the pouch into this part of the intestine, bypassing most of your stomach.

- **Laparoscopic adjustable gastric banding (LAGB):**

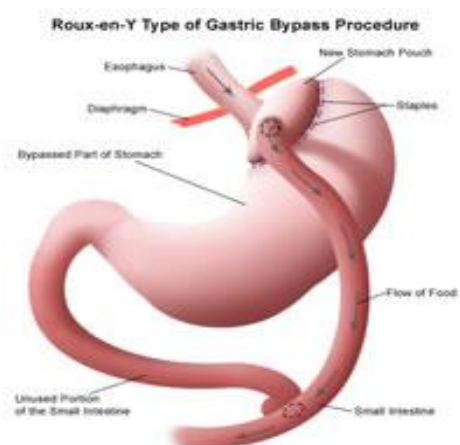
In this procedure, your stomach is separated into two pouches with an inflatable band. Pulling the band tight, like a belt, the surgeon creates a tiny channel between the two pouches. The band keeps the opening from expanding and is generally designed to stay in place permanently.

- **Biliopancreatic diversion with duodenal switch:**

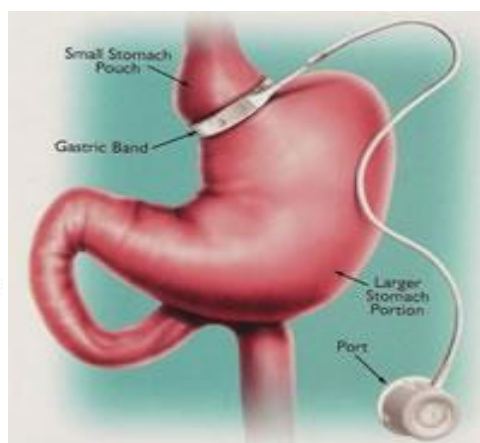
This procedure begins with the surgeon removing a large part of the stomach. The surgeon leaves the valve that releases food to the small intestine and the first part of the small intestine (duodenum). Then the surgeon closes off the middle section of the intestine and attaches the last part directly to the duodenum. The separated section of the intestine is reattached to the end of the intestine to allow bile and digestive juices to flow into this part of the intestine.

- **Gastric sleeve:**

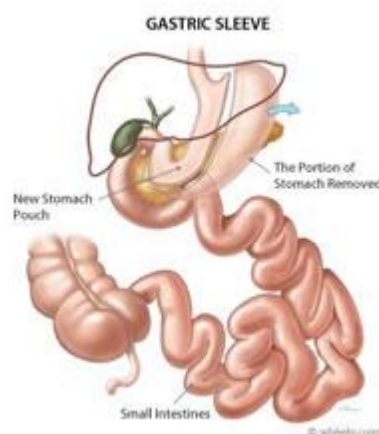
In this procedure, part of the stomach is removed, creating a smaller reservoir for food. It's a less complicated surgery than gastric bypass or Biliopancreatic diversion with duodenal switch.



**Roux-en-Y Gastric Bypass**



**Laparoscopic Gastric Banding Procedure**

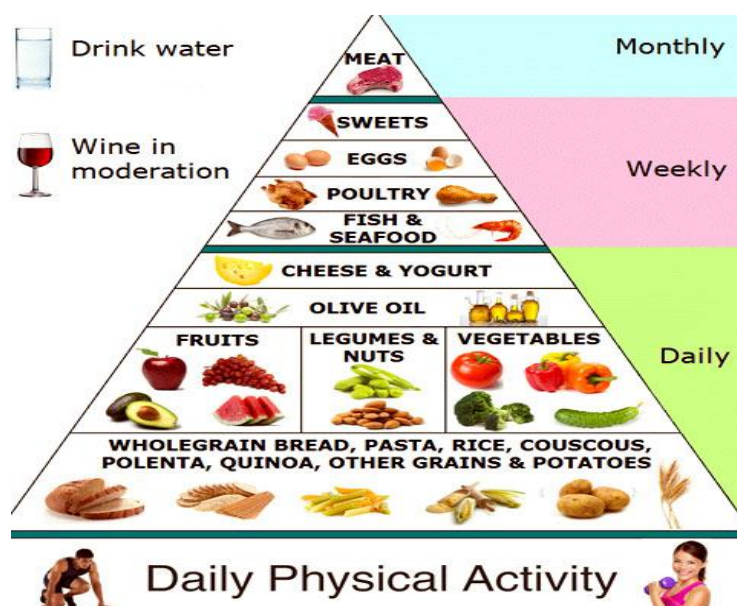


**Gastric Sleeve Recession Procedure**

## DAILY RECOMMENDED DIET

Recommended Daily Calorie Intake				
	Males		Females	
	Activity level*		Activity level*	
Age	Sedentary	Moderate	Sedentary	Moderate
2	1000	1000	1000	1000
3	1000	1400	1000	1200
4-5	1200	1400	1200	1400
6	1400	1600	1200	1400
7	1400	1600	1200	1600
8	1400	1600	1400	1600
9	1600	1800	1400	1600
10	1600	1800	1400	1800
11	1800	2000	1600	1800
12	1800	2200	1600	2000
13	2000	2200	1600	2000
14	2000	2400	1800	2000
15	2200	2600	1800	2000
16-18	2400	2800	1800	2000
19-20	2600	2800	2000	2200
21-25	2400	2800	2000	2200
26-40	2400	2600	1800	2000
41-45	2200	2600	1800	2000
46-50	2200	2400	1800	2000
51-60	2200	2400	1600	1800
61-65	2000	2400	1600	1800
66 and up	2000	2200	1600	1800

## FOOD PYRAMIDE



# MATERIALS AND METHODS

## MATERIALS

The clinical study on **Athithoola Rogam** was carried out at the Post Graduate Noi Naadal outpatient Department of Government Siddha Medical College & Hospital, Palayamkottai.

## CASE SELECTION AND SUPERVISION

Author has selected cases of Similar Symptoms of **Athithoola Rogam** from the Post Graduate Noi Naadal outpatient Department of Government Siddha Medical College & Hospital, Palayamkottai. From which 200 typical cases of Athithoola Rogam were selected and were followed by the author whose work under the close supervision of the Professor and Lecturer of the Post Graduate Noi Naadal Department.

## Documentation of Clinical Features of “Athithoola Rogam”

It is carried out on the basis of interpretation of the following siddha diagnostic principles.

- 1). Poriyal arithal
- 2). Pulanal arithal
- 3). Vinaadhal
- 4). Changes in Uyir Thathukkal
- 5). Changes in Udal Thathukkal
- 6). Envagai Thervugal
- 7). Manikadai
- 8). Impul Iyakka Vithi (Pancha Patchi)

## EVALUATION OF CLINICAL PARAMETERS

### Criteria for Inclusion:

- ❖ Age : 5 – 70 years
- ❖ Both sexes
- ❖ Presence of Obesity(BMI  $\geq$  25)
- ❖ Waist Hip Circumference ratio  $>0.95$  in males and  $>0.8$  in females.
- ❖ Patients who are willing to undergo radiological investigation and give blood, urine for laboratory investigation.

### Criteria for exclusion:

- ❖ Age below 5 and above 70 years
- ❖ Pregnancy and Lactation

- ❖ Malignancy
- ❖ Athletes or body builders having muscular hypertrophy
- ❖ Cardiac illness
- ❖ Person undergoing treatment for any other serious illness

### **The Clinical Parameter**

For further detailed study, modern investigation parameters were used. The following laboratory investigations were done in these cases.

### **Haematology:**

1. Total Count of W.B.C
2. Differential Count of W.B.C
3. Hemoglobin
4. Erythrocyte Sedimentation Rate

### **Biochemistry:**

1. Blood Sugar
2. Blood Urea
3. Uric acid
4. Serum Creatinine
5. Lipid Profile
  - Total serum Cholesterol
  - HDL
  - LDL
  - VLDL
  - Triglycerides
6. Thyroid Profile
  - T<sub>3</sub>
  - T<sub>4</sub>
  - TSH

### **Urine Analysis:**

1. Albumin
2. Sugar
3. deposits

### **Other Investigation:**

USG Abdomen & Pelvis

## STUDY DESIGN:

Observational Type of Study.

## STUDY ENROLLMENT

- In the study, patients reporting at the OPD & IPD of Govt siddha Hospital with the clinical symptoms of “Athi thoola rogam” referred to the Research group. (Form- I). Based on the inclusion criteria the patients included first and excluded from the same day if they hit the exclusion criteria.
- The patients who were enrolled to informed (Form IV-A) about the study, and the objectives of the study in the language and terms understandable for them.
- After ascertaining the patient’s willingness, written informed consent was obtained from them in the consent form (Form- IV).
- All these patients were given unique registration card in which patient’s Registration number of the study, Address, Phone number and Doctor Phone number ect., given, so as to report to research group easily if any complication arises.
- Complete clinical history, complaints and duration, examination findings were recorded in the prescribed Performa in the history and clinical assessment forms separately. Screening Form-I filled up; Form I-A, Form-II and Form-III used for recording the patient’s history, clinical examination of symptoms and signs and lab investigation respectively.

## INVESTIGATIONS DURING THE STUDY:

The patients were subjected to basic necessary laboratory parameters during the study.

## TREATMENT DURING THE STUDY:

Normal treatment procedure followed and it were prescribed to the study patients.

## STUDY PERIOD

- Total period - 2yr
- Recruitment for the study - Up to 18 months
- Data entry analysis - 4 month
- Report preparation and submission - 2 month

## **DATA MANAGEMENT**

- After enrolling the patient in the study, a separate file for each patient will be opened and all forms filed in the file. Study No. and Patient No. entered on the top of file for easy identification and arranged in a separate rack at the concerned OPD unit. Whenever study patient visits OPD during the study period, the respective patient file taken and necessary recordings made at the assessment form or other suitable form.
- The screening forms filed separately.
- The Data recordings monitored for completion and adverse event by HOD and Faculty of the department .Any missed data found in during the study, it collected from the patient, but the time related data not be recorded retrospectively
- All collected data entered using MS access/excel software onto computer.
- Investigators trained to enter the patient data and cross checked by faculties of PG Noi Naadal department.

## **STATISTICAL ANALYSIS**

All collected data entered in to computer using MS Access/MS Excel software by the investigators. The level of significance will be 0.05. Descriptive analysis made and necessary tables/graphs generated to understand the profile of patients included in the study. Then statistical analysis for significance of different diagnostic characteristics done. Student‘t’ test and chi-square test are proposed to be performed for quantitative and qualitative data.

## **OUT COME OF STUDY**

- ❖ A reliable Siddha diagnostic procedure.
- ❖ Description about the factors which influence Athithoola Rogam.
- ❖ Effective treatment - by framing prompt diagnosis.
- ❖ Line of treatment - for effective prognosis.
- ❖ Dietary Regimen - not only prevents the progression of the disease but also subside its severity.
- ❖ It is very useful for Remote Areas, where the lab facilities are not available.



## OBSERVATION AND RESULT

**TABLE – 10- AGE**

Sl. No.	Age	No. of Cases	Percentage
1.	5-11( Vatha Kapham)	29	14.5
2.	11-22( Vatha Pitham)	23	11.5
3.	22-33( Vathathil Vatham)	23	11.5
4.	33-44( Pitha Kapham)	50	25
5.	44-55( Pithatil Pitham)	39	19.5
6.	55-66 (Pitha Vatham)	25	12.5
7.	Above 66( Kaphathil Kapham)	11	5.5

Out of 200 cases 14.5% Vatha Kapham, 11.5% Vatha Pitham, 11.5% Vathathil Vatham, 25% Pitha Kapham, 19.5% Pithatil Pitham, 12.5% Pitha Vatham, 5.5% Kaphathil Kapham age group.

From above table it is evident that **Pitha Kapham (33-44) age group** was mostly affected than other age group.

**TABLE –11 SEX**

Sl. No.	Sex	No. of Cases	Percentage
1.	Male	63	31.5
2.	Female	103	51.5
3.	Children	34	17

Out of 200 cases 31.5% were male, 51.5% were females and 17% were children.

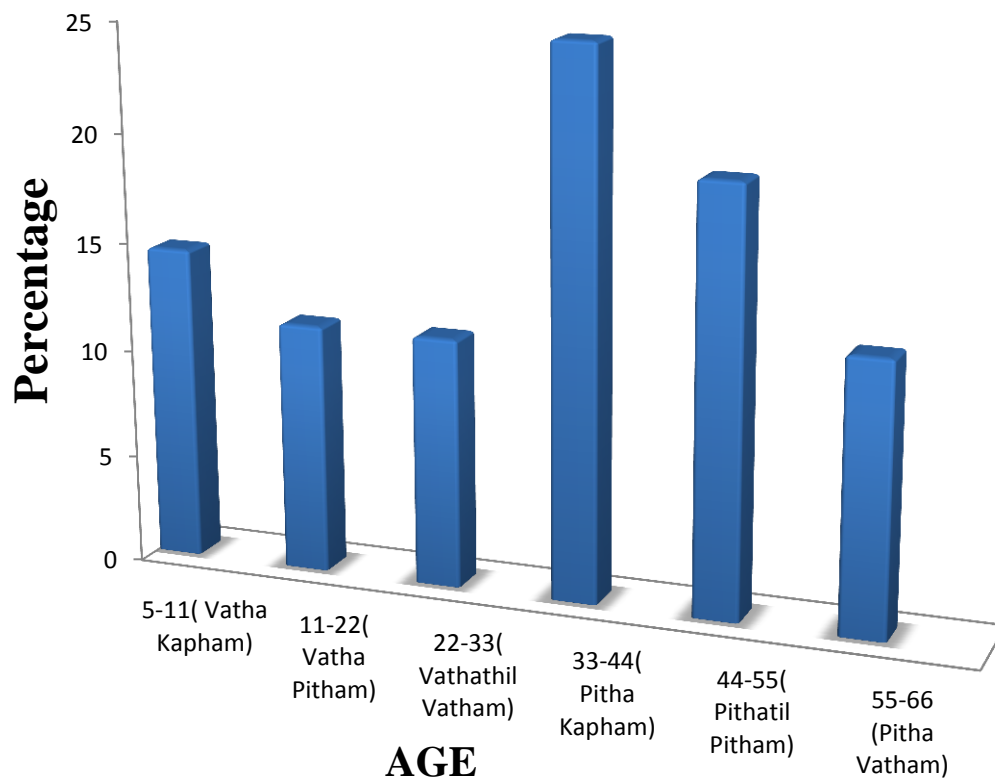
From above table it is evident that **Females** were mostly affected than other group.

**TABLE –12 SOCIO ECONOMIC STATUS**

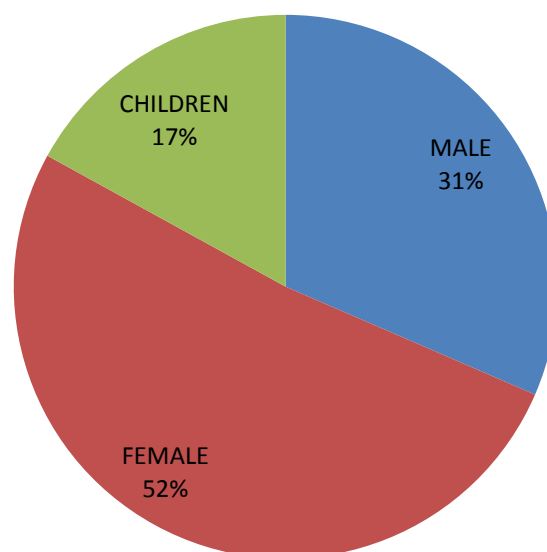
Sl. No.	Socio economic status	No. of Cases	Percentage
1.	High class	68	34
2.	Middle class	102	51
3	Below poverty line	30	15

**Out of 200 cases 51 % of Middle Class group were more affected than other group.**

### AGE DISTRIBUTION



### SEX DISTRIBUTION



**TABLE – 13**  
**DIET AND HABITS**

Sl. No.	Diet	No. of Cases	Percentage
1.	Vegetarian	74	37
2.	Non- Vegetarian	126	63

Out of 200 cases 63% of Non – Vegetarian group were more affected.

**TABLE – 14**  
**OCCUPATIONAL STATUS**

Sl. No.	Occupational status	No. of Cases	Percentage
1.	Sedentary workers	108	54
2.	Medium workers	64	32
3	Heavy workers	28	14

Out of 200 cases 54% of sedentary workers group were more affected.

**TABLE – 15**  
**AETIOLOGICAL FACTOR**

Sl. No.	Etiological factor	No. of Cases	Percentage
1.	Sedentary workers	78	39
2.	Lack of exercise	68	34
3	Over eating	54	27

Out of 200 cases 39% of sedentary workers group were more affected.

**TABLE – 16 THEGI ILAKKANAM**

S.No.	Thegi	No. of Cases	Percentage
1.	Vatham	20	10
2.	Pitham	28	14
3.	Kapham	152	76

Out of 200 cases 10% of Vatha Thegi, 14% of Pitha Thegi, **76% of Kapha Thegi.**

**TABLE – 17**  
**STATUS OF UYIR THATHUKAL**  
**VALI**

SL. NO.	Reg.No.	OP./ IP No.	1	2	3	4	5	6	7	8	9	10
1.	1	56293	N	A	A	A	A	N	N	N	N	N
2.	2	56858	A	A	A	A	A	N	N	N	N	N
3.	3	58864	N	A	A	A	A	N	N	N	N	N
4.	4	60036	N	A	A	A	A	N	N	N	N	N
5.	5	61303	A	A	A	A	A	N	N	N	N	N
6.	6	61543	N	A	A	A	A	N	N	N	N	N
7.	7	66475	N	A	A	A	A	N	N	N	N	N
8.	8	67600	A	A	A	A	A	N	N	N	N	N
9.	9	67895	N	A	A	A	A	N	N	N	N	N
10.	10	69513	N	A	A	A	A	N	N	N	N	N
11.	11	71438	N	A	A	A	A	N	N	N	N	N
12.	12	72905	N	A	A	A	A	N	N	N	N	N
13.	13	72901	A	A	A	A	A	N	N	N	N	N
14.	14	74408	N	A	A	A	A	N	N	N	N	N
15.	15	74406	N	A	A	A	A	N	N	N	N	N
16.	16	74407	N	A	A	A	A	N	N	N	N	N
17.	17	105004	N	A	A	A	A	N	N	N	N	N
18.	18	106313	A	A	A	A	A	N	N	N	N	N
19.	19	106359	N	A	A	A	A	N	N	N	N	N
20.	20	106557	N	A	A	A	A	N	N	N	N	N
21.	21	106603	N	A	A	A	A	N	N	N	N	N
22.	22	106956	A	A	A	A	A	N	N	N	N	N
23.	23	107249	N	A	A	A	A	N	N	N	N	N
24.	24	107308	N	A	A	A	A	N	N	N	N	N
25.	25	107741	A	A	A	A	A	N	N	N	N	N
26.	26	107771	N	A	A	A	A	N	N	N	N	N

27.	27	108346	N	A	A	A	A	N	N	N	N	N
28.	28	108443	A	A	A	A	A	N	N	N	N	N
29.	29	110873	N	A	A	A	A	N	N	N	N	N
30.	30	110832	N	A	A	A	A	N	N	N	N	N
31.	31	111240	N	A	A	A	A	N	N	N	N	N
32.	32	111241	N	A	A	A	A	N	N	N	N	N
33.	33	112338	A	A	A	A	A	N	N	N	N	N
34.	34	112760	N	A	A	A	A	N	N	N	N	N
35.	35	112629	N	A	A	A	A	N	N	N	N	N
36.	36	3358	N	A	A	A	A	N	N	N	N	N
37.	37	16	N	A	A	A	A	N	N	N	N	N
38.	38	23	A	A	A	A	A	N	N	N	N	N
39.	39	226	N	A	A	A	A	N	N	N	N	N
40.	40	599	N	A	A	A	A	N	N	N	N	N
41.	41	808	N	A	A	A	A	N	N	N	N	N
42.	42	1325	A	A	A	A	A	N	N	N	N	N
43.	43	2024	N	A	A	A	A	N	N	N	N	N
44.	44	2026	N	A	A	A	A	N	N	N	N	N
45.	45	2282	A	A	A	A	A	N	N	N	N	N
46.	46	2968	N	A	A	A	A	N	N	N	N	N
47.	47	3072	N	A	A	A	A	N	N	N	N	N
48.	48	3401	A	A	A	A	A	N	N	N	N	N
49.	49	3687	N	A	A	A	A	N	N	N	N	N
50.	50	3567	N	A	A	A	A	N	N	N	N	N
51.	51	4114	N	A	A	A	A	N	N	N	N	N
52.	52	4441	N	A	A	A	A	N	N	N	N	N
53.	53	4610	A	A	A	A	A	N	N	N	N	N
54.	54	4923	N	A	A	A	A	N	N	N	N	N
55.	55	5221	N	A	A	A	A	N	N	N	N	N
56.	56	5531	N	A	A	A	A	N	N	N	N	N

57.	57	5856	N	A	A	A	A	N	N	N	N	N
58.	58	6266	A	A	A	A	A	N	N	N	N	N
59.	59	6626	N	A	A	A	A	N	N	N	N	N
60.	60	7256	N	A	A	A	A	N	N	N	N	N
61.	61	7746	N	A	A	A	A	N	N	N	N	N
62.	62	7843	A	A	A	A	A	N	N	N	N	N
63.	63	8092	N	A	A	A	A	N	N	N	N	N
64.	64	8463	N	A	A	A	A	N	N	N	N	N
65.	65	8530	A	A	A	A	A	N	N	N	N	N
66.	66	9018	N	A	A	A	A	N	N	N	N	N
67.	67	9744	N	A	A	A	A	N	N	N	N	N
68.	68	9929	A	A	A	A	A	N	N	N	N	N
69.	69	10180	N	A	A	A	A	N	N	N	N	N
70.	70	10217	N	A	A	A	A	N	N	N	N	N
71.	71	10300	N	A	A	A	A	N	N	N	N	N
72.	72	10384	N	A	A	A	A	N	N	N	N	N
73.	73	10756	A	A	A	A	A	N	N	N	N	N
74.	74	11408	N	A	A	A	A	N	N	N	N	N
75.	75	11367	N	A	A	A	A	N	N	N	N	N
76.	76	11528	N	A	A	A	A	N	N	N	N	N
77.	77	11955	N	A	A	A	A	N	N	N	N	N
78.	78	12265	A	A	A	A	A	N	N	N	N	N
79.	79	12615	N	A	A	A	A	N	N	N	N	N
80.	80	12868	N	A	A	A	A	N	N	N	N	N
81.	81	13158	N	A	A	A	A	N	N	N	N	N
82.	82	13523	A	A	A	A	A	N	N	N	N	N
83.	83	14210	N	A	A	A	A	N	N	N	N	N
84.	84	14380	N	A	A	A	A	N	N	N	N	N
85.	85	14274	A	A	A	A	A	N	N	N	N	N
86.	86	14534	N	A	A	A	A	N	N	N	N	N

<b>87.</b>	87	15062	N	A	A	A	A	N	N	N	N	N
<b>88.</b>	88	16084	A	A	A	A	A	N	N	N	N	N
<b>89.</b>	89	16850	N	A	A	A	A	N	N	N	N	N
<b>90.</b>	90	17087	N	A	A	A	A	N	N	N	N	N
<b>91.</b>	91	17221	N	A	A	A	A	N	N	N	N	N
<b>92.</b>	92	17808	N	A	A	A	A	N	N	N	N	N
<b>93.</b>	93	18084	A	A	A	A	A	N	N	N	N	N
<b>94.</b>	94	18168	N	A	A	A	A	N	N	N	N	N
<b>95.</b>	95	18529	N	A	A	A	A	N	N	N	N	N
<b>96.</b>	96	18897	N	A	A	A	A	N	N	N	N	N
<b>97.</b>	97	19288	N	A	A	A	A	N	N	N	N	N
<b>98.</b>	98	19304	A	A	A	A	A	N	N	N	N	N
<b>99.</b>	99	19636	N	A	A	A	A	N	N	N	N	N
<b>100.</b>	100	19689	N	A	A	A	A	N	N	N	N	N
<b>101.</b>	101	20144	N	A	A	A	A	N	N	N	N	N
<b>102.</b>	102	20222	A	A	A	A	A	N	N	N	N	N
<b>103.</b>	103	20385	N	A	A	A	A	N	N	N	N	N
<b>104.</b>	104	21230	N	A	A	A	A	N	N	N	N	N
<b>105.</b>	105	21556	A	A	A	A	A	N	N	N	N	N
<b>106.</b>	106	20916	N	A	A	A	A	N	N	N	N	N
<b>107.</b>	107	20996	N	A	A	A	A	N	N	N	N	N
<b>108.</b>	108	21200	A	A	A	A	A	N	N	N	N	N
<b>109.</b>	109	21514	N	A	A	A	A	N	N	N	N	N
<b>110.</b>	110	21728	N	A	A	A	A	N	N	N	N	N
<b>111.</b>	111	21730	N	A	A	A	A	N	N	N	N	N
<b>112.</b>	112	21753	N	A	A	A	A	N	N	N	N	N
<b>113.</b>	113	21937	A	A	A	A	A	N	N	N	N	N
<b>114.</b>	114	21962	N	A	A	A	A	N	N	N	N	N
<b>115.</b>	115	22201	N	A	A	A	A	N	N	N	N	N
<b>116.</b>	116	22396	N	A	A	A	A	N	N	N	N	N

<b>117.</b>	117	22415	N	A	A	A	A	N	N	N	N	N
<b>118.</b>	118	22690	A	A	A	A	A	N	N	N	N	N
<b>119.</b>	119	22742	N	A	A	A	A	N	N	N	N	N
<b>120.</b>	120	23191	N	A	A	A	A	N	N	N	N	N
<b>121.</b>	121	23320	N	A	A	A	A	N	N	N	N	N
<b>122.</b>	122	23421	A	A	A	A	A	N	N	N	N	N
<b>123.</b>	123	23537	N	A	A	A	A	N	N	N	N	N
<b>124.</b>	124	23741	N	A	A	A	A	N	N	N	N	N
<b>125.</b>	125	23787	A	A	A	A	A	N	N	N	N	N
<b>126.</b>	126	24000	N	A	A	A	A	N	N	N	N	N
<b>127.</b>	127	24148	N	A	A	A	A	N	N	N	N	N
<b>128.</b>	128	24210	A	A	A	A	A	N	N	N	N	N
<b>129.</b>	129	24602	N	A	A	A	A	N	N	N	N	N
<b>130.</b>	130	24882	N	A	A	A	A	N	N	N	N	N
<b>131.</b>	131	24900	N	A	A	A	A	N	N	N	N	N
<b>132.</b>	132	24998	N	A	A	A	A	N	N	N	N	N
<b>133.</b>	133	25000	A	A	A	A	A	N	N	N	N	N
<b>134.</b>	134	25421	N	A	A	A	A	N	N	N	N	N
<b>135.</b>	135	25645	N	A	A	A	A	N	N	N	N	N
<b>136.</b>	136	25690	N	A	A	A	A	N	N	N	N	N
<b>137.</b>	137	25969	N	A	A	A	A	N	N	N	N	N
<b>138.</b>	138	25999	A	A	A	A	A	N	N	N	N	N
<b>139.</b>	139	25321	N	A	A	A	A	N	N	N	N	N
<b>140.</b>	140	26495	N	A	A	A	A	N	N	N	N	N
<b>141.</b>	141	26527	N	A	A	A	A	N	N	N	N	N
<b>142.</b>	142	26972	A	A	A	A	A	N	N	N	N	N
<b>143.</b>	143	27332	N	A	A	A	A	N	N	N	N	N
<b>144.</b>	144	27501	N	A	A	A	A	N	N	N	N	N
<b>145.</b>	145	27633	A	A	A	A	A	N	N	N	N	N
<b>146.</b>	146	26872	N	A	A	A	A	N	N	N	N	N



<b>147.</b>	147	27429	N	A	A	A	A	N	N	N	N	N
<b>148.</b>	148	27561	A	A	A	A	A	N	N	N	N	N
<b>149.</b>	149	28162	N	A	A	A	A	N	N	N	N	N
<b>150.</b>	150	28210	N	A	A	A	A	N	N	N	N	N
<b>151.</b>	151	28521	N	A	A	A	A	N	N	N	N	N
<b>152.</b>	152	28793	N	A	A	A	A	N	N	N	N	N
<b>153.</b>	153	28830	A	A	A	A	A	N	N	N	N	N
<b>154.</b>	154	29247	N	A	A	A	A	N	N	N	N	N
<b>155.</b>	155	29384	N	A	A	A	A	N	N	N	N	N
<b>156.</b>	156	29452	N	A	A	A	A	N	N	N	N	N
<b>157.</b>	157	29510	N	A	A	A	A	N	N	N	N	N
<b>158.</b>	158	29721	A	A	A	A	A	N	N	N	N	N
<b>159.</b>	159	29864	N	A	A	A	A	N	N	N	N	N
<b>160.</b>	160	29910	N	A	A	A	A	N	N	N	N	N
<b>161.</b>	161	30049	N	A	A	A	A	N	N	N	N	N
<b>162.</b>	162	30173	A	A	A	A	A	N	N	N	N	N
<b>163.</b>	163	30241	N	A	A	A	A	N	N	N	N	N
<b>164.</b>	164	30366	N	A	A	A	A	N	N	N	N	N
<b>165.</b>	165	30411	A	A	A	A	A	N	N	N	N	N
<b>166.</b>	166	30501	N	A	A	A	A	N	N	N	N	N
<b>167.</b>	167	30621	N	A	A	A	A	N	N	N	N	N
<b>168.</b>	168	31010	A	A	A	A	A	N	N	N	N	N
<b>169.</b>	169	31172	N	A	A	A	A	N	N	N	N	N
<b>170.</b>	170	31620	N	A	A	A	A	N	N	N	N	N
<b>171.</b>	171	32721	N	A	A	A	A	N	N	N	N	N
<b>172.</b>	172	33105	N	A	A	A	A	N	N	N	N	N
<b>173.</b>	173	33691	A	A	A	A	A	N	N	N	N	N
<b>174.</b>	174	34232	N	A	A	A	A	N	N	N	N	N
<b>175.</b>	175	34509	N	A	A	A	A	N	N	N	N	N
<b>176.</b>	176	34962	N	A	A	A	A	N	N	N	N	N

177.	177	35002	N	A	A	A	A	N	N	N	N	N
178.	178	35179	A	A	A	A	A	N	N	N	N	N
179.	179	35301	N	A	A	A	A	N	N	N	N	N
180.	180	35597	N	A	A	A	A	N	N	N	N	N
181.	181	35719	N	A	A	A	A	N	N	N	N	N
182.	182	35962	A	A	A	A	A	N	N	N	N	N
183.	183	36610	N	A	A	A	A	N	N	N	N	N
184.	184	37201	N	A	A	A	A	N	N	N	N	N
185.	185	37724	A	A	A	A	A	N	N	N	N	N
186.	186	38072	N	A	A	A	A	N	N	N	N	N
187.	187	38288	N	A	A	A	A	N	N	N	N	N
188.	188	38452	A	A	A	A	A	N	N	N	N	N
189.	189	38920	N	A	A	A	A	N	N	N	N	N
190.	190	39100	N	A	A	A	A	N	N	N	N	N
191.	191	39292	N	A	A	A	A	N	N	N	N	N
192.	192	39427	N	A	A	A	A	N	N	N	N	N
193.	193	39546	A	A	A	A	A	N	N	N	N	N
194.	194	39767	N	A	A	A	A	N	N	N	N	N
195.	195	40450	N	A	A	A	A	N	N	N	N	N
196.	196	40695	A	A	A	A	A	N	N	N	N	N
197.	197	41293	N	A	A	A	A	N	N	N	N	N
198.	198	41573	N	A	A	A	A	N	N	N	N	N
199.	199	41921	N	A	A	A	A	N	N	N	N	N
200.	200	42206	N	A	A	A	A	N	N	N	N	N

1) Praanan, 2) Abaanan, 3) Udhanan

6) Nagan 7) Koorman 8) Kirukaran

4) Viyaanan 5) Samaanan

9) Devathathan 10) Dhananjeyan

**All the cases (100%) shows affected- Udhanan, Viyaanan, Abaanan, Samaanan, 25% shows praanan affected**

**TABLE –18                      PITHAM, KAPHAM**

SL. NO.	Reg.NO	OP/ IP NO.	PITHAM					KAPHAM				
			1	2	3	4	5	6	7	8	9	10
1.	1	56293	A	A	A	N	A	N	A	N	A	N
2.	2	56858	A	A	N	N	A	N	A	N	N	N
3.	3	58864	A	A	N	N	A	A	N	N	N	N
4.	4	60036	A	A	N	N	A	A	A	N	N	N
5.	5	61303	A	A	N	N	A	A	N	N	A	N
6.	6	61543	A	A	N	N	A	A	N	N	N	N
7.	7	66475	A	A	A	N	A	A	A	N	N	N
8.	8	67600	A	A	N	N	A	N	N	N	A	N
9.	9	67895	A	A	N	N	A	A	N	N	A	N
10.	10	69513	A	A	A	N	A	A	N	N	N	N
11.	11	71438	A	A	A	N	A	A	A	N	N	N
12.	12	72905	A	A	N	N	A	N	N	N	N	N
13.	13	72901	A	A	N	N	A	A	A	N	A	N
14.	14	74408	A	A	A	N	A	N	N	N	N	N
15.	15	74406	A	A	N	N	A	A	N	N	N	N
16.	16	74407	A	A	A	N	A	A	N	N	N	N
17.	17	105004	A	A	N	N	A	N	N	N	N	N
18.	18	106313	A	A	N	N	A	N	N	N	A	N
19.	19	106359	A	A	N	N	A	A	N	N	N	N
20.	20	106557	A	A	N	N	A	N	A	N	A	N
21.	21	106603	A	A	A	N	A	N	A	N	A	N
22.	22	106956	A	A	N	N	A	N	A	N	N	N
23.	23	107249	A	A	N	N	A	A	N	N	N	N

24.	24	107308	A	A	N	N	A	A	A	N	N	N
25.	25	107741	A	A	N	N	A	A	N	N	A	N
26.	26	107771	A	A	N	N	A	A	N	N	N	N
27.	27	108346	A	A	A	N	A	A	A	N	N	N
28.	28	108443	A	A	N	N	A	N	N	N	A	N
29.	29	110873	A	A	N	N	A	A	N	N	A	N
30.	30	110832	A	A	A	N	A	A	N	N	N	N
31.	31	111240	A	A	A	N	A	A	A	N	N	N
32.	32	111241	A	A	N	N	A	N	N	N	N	N
33.	33	112338	A	A	N	N	A	A	A	N	A	N
34.	34	112760	A	A	A	N	A	N	N	N	N	N
35.	35	112629	A	A	N	N	A	A	N	N	N	N
36.	36	3358	A	A	A	N	A	A	N	N	N	N
37.	37	16	A	A	N	N	A	N	N	N	N	N
38.	38	23	A	A	N	N	A	N	N	N	A	N
39.	39	226	A	A	N	N	A	A	N	N	N	N
40.	40	599	A	A	N	N	A	N	A	N	A	N
41.	41	808	A	A	A	N	A	N	A	N	A	N
42.	42	1325	A	A	N	N	A	N	A	N	N	N
43.	43	2024	A	A	N	N	A	A	N	N	N	N
44.	44	2026	A	A	N	N	A	A	A	N	N	N
45.	45	2282	A	A	N	N	A	A	N	N	A	N
46.	46	2968	A	A	N	N	A	A	N	N	N	N
47.	47	3072	A	A	A	N	A	A	A	N	N	N
48.	48	3401	A	A	N	N	A	N	N	N	A	N
49.	49	3687	A	A	N	N	A	A	N	N	A	N
50.	50	3567	A	A	A	N	A	A	N	N	N	N

<b>51.</b>	51	4114	A	A	A	N	A	A	A	N	N	N
<b>52.</b>	52	4441	A	A	N	N	A	N	N	N	N	N
<b>53.</b>	53	4610	A	A	N	N	A	A	A	N	A	N
<b>54.</b>	54	4923	A	A	A	N	A	N	N	N	N	N
<b>55.</b>	55	5221	A	A	N	N	A	A	N	N	N	N
<b>56.</b>	56	5531	A	A	A	N	A	A	N	N	N	N
<b>57.</b>	57	5856	A	A	N	N	A	N	N	N	N	N
<b>58.</b>	58	6266	A	A	N	N	A	N	N	N	A	N
<b>59.</b>	59	6626	A	A	N	N	A	A	N	N	N	N
<b>60.</b>	60	7256	A	A	N	N	A	N	A	N	A	N
<b>61.</b>	61	7746	A	A	A	N	A	N	A	N	A	N
<b>62.</b>	62	7843	A	A	N	N	A	N	A	N	N	N
<b>63.</b>	63	8092	A	A	N	N	A	A	N	N	N	N
<b>64.</b>	64	8463	A	A	N	N	A	A	A	N	N	N
<b>65.</b>	65	8530	A	A	N	N	A	A	N	N	A	N
<b>66.</b>	66	9018	A	A	N	N	A	A	N	N	N	N
<b>67.</b>	67	9744	A	A	A	N	A	A	A	N	N	N
<b>68.</b>	68	9929	A	A	N	N	A	N	N	N	A	N
<b>69.</b>	69	10180	A	A	N	N	A	A	N	N	A	N
<b>70.</b>	70	10217	A	A	A	N	A	A	N	N	N	N
<b>71.</b>	71	10300	A	A	A	N	A	A	A	N	N	N
<b>72.</b>	72	10384	A	A	N	N	A	N	N	N	N	N
<b>73.</b>	73	10756	A	A	N	N	A	A	A	N	A	N
<b>74.</b>	74	11408	A	A	A	N	A	N	N	N	N	N
<b>75.</b>	75	11367	A	A	N	N	A	A	N	N	N	N
<b>76.</b>	76	11528	A	A	A	N	A	A	N	N	N	N
<b>77.</b>	77	11955	A	A	N	N	A	N	N	N	N	N

<b>78.</b>	78	12265	A	A	N	N	A	N	N	N	A	N
<b>79.</b>	79	12615	A	A	N	N	A	A	N	N	N	N
<b>80.</b>	80	12868	A	A	N	N	A	N	A	N	A	N
<b>81.</b>	81	13158	A	A	A	N	A	N	A	N	A	N
<b>82.</b>	82	13523	A	A	N	N	A	N	A	N	N	N
<b>83.</b>	83	14210	A	A	N	N	A	A	N	N	N	N
<b>84.</b>	84	14380	A	A	N	N	A	A	A	N	N	N
<b>85.</b>	85	14274	A	A	N	N	A	A	N	N	A	N
<b>86.</b>	86	14534	A	A	N	N	A	A	N	N	N	N
<b>87.</b>	87	15062	A	A	A	N	A	A	A	N	N	N
<b>88.</b>	88	16084	A	A	N	N	A	N	N	N	A	N
<b>89.</b>	89	16850	A	A	N	N	A	A	N	N	A	N
<b>90.</b>	90	17087	A	A	A	N	A	A	N	N	N	N
<b>91.</b>	91	17221	A	A	A	N	A	A	A	N	N	N
<b>92.</b>	92	17808	A	A	N	N	A	N	N	N	N	N
<b>93.</b>	93	18084	A	A	N	N	A	A	A	N	A	N
<b>94.</b>	94	18168	A	A	A	N	A	N	N	N	N	N
<b>95.</b>	95	18529	A	A	N	N	A	A	N	N	N	N
<b>96.</b>	96	18897	A	A	A	N	A	A	N	N	N	N
<b>97.</b>	97	19288	A	A	N	N	A	N	N	N	N	N
<b>98.</b>	98	19304	A	A	N	N	A	N	N	N	A	N
<b>99.</b>	99	19636	A	A	N	N	A	A	N	N	N	N
<b>100.</b>	100	19689	A	A	N	N	A	N	A	N	A	N
<b>101.</b>	101	20144	A	A	A	N	A	N	A	N	A	N
<b>102.</b>	102	20222	A	A	N	N	A	N	A	N	N	N
<b>103.</b>	103	20385	A	A	N	N	A	A	N	N	N	N
<b>104.</b>	104	21230	A	A	N	N	A	A	A	N	N	N

<b>105.</b>	105	21556	A	A	N	N	A	A	N	N	A	N
<b>106.</b>	106	20916	A	A	N	N	A	A	N	N	N	N
<b>107.</b>	107	20996	A	A	A	N	A	A	A	N	N	N
<b>108.</b>	108	21200	A	A	N	N	A	N	N	N	A	N
<b>109.</b>	109	21514	A	A	N	N	A	A	N	N	A	N
<b>110.</b>	110	21728	A	A	A	N	A	A	N	N	N	N
<b>111.</b>	111	21730	A	A	A	N	A	A	A	N	N	N
<b>112.</b>	112	21753	A	A	N	N	A	N	N	N	N	N
<b>113.</b>	113	21937	A	A	N	N	A	A	A	N	A	N
<b>114.</b>	114	21962	A	A	A	N	A	N	N	N	N	N
<b>115.</b>	115	22201	A	A	N	N	A	A	N	N	N	N
<b>116.</b>	116	22396	A	A	A	N	A	A	N	N	N	N
<b>117.</b>	117	22415	A	A	N	N	A	N	N	N	N	N
<b>118.</b>	118	22690	A	A	N	N	A	N	N	N	A	N
<b>119.</b>	119	22742	A	A	N	N	A	A	N	N	N	N
<b>120.</b>	120	23191	A	A	N	N	A	N	A	N	A	N
<b>121.</b>	121	23320	A	A	A	N	A	N	A	N	A	N
<b>122.</b>	122	23421	A	A	N	N	A	N	A	N	N	N
<b>123.</b>	123	23537	A	A	N	N	A	A	N	N	N	N
<b>124.</b>	124	23741	A	A	N	N	A	A	A	N	N	N
<b>125.</b>	125	23787	A	A	N	N	A	A	N	N	A	N
<b>126.</b>	126	24000	A	A	N	N	A	A	N	N	N	N
<b>127.</b>	127	24148	A	A	A	N	A	A	A	N	N	N
<b>128.</b>	128	24210	A	A	N	N	A	N	N	N	A	N
<b>129.</b>	129	24602	A	A	N	N	A	A	N	N	A	N
<b>130.</b>	130	24882	A	A	A	N	A	A	N	N	N	N
<b>131.</b>	131	24900	A	A	A	N	A	A	A	N	N	N

<b>132.</b>	132	24998	A	A	N	N	A	N	N	N	N	N
<b>133.</b>	133	25000	A	A	N	N	A	A	A	N	A	N
<b>134.</b>	134	25421	A	A	A	N	A	N	N	N	N	N
<b>135.</b>	135	25645	A	A	N	N	A	A	N	N	N	N
<b>136.</b>	136	25690	A	A	A	N	A	A	N	N	N	N
<b>137.</b>	137	25969	A	A	N	N	A	N	N	N	N	N
<b>138.</b>	138	25999	A	A	N	N	A	N	N	N	A	N
<b>139.</b>	139	25321	A	A	N	N	A	A	N	N	N	N
<b>140.</b>	140	26495	A	A	N	N	A	N	A	N	A	N
<b>141.</b>	141	26527	A	A	A	N	A	N	A	N	A	N
<b>142.</b>	142	26972	A	A	N	N	A	N	A	N	N	N
<b>143.</b>	143	27332	A	A	N	N	A	A	N	N	N	N
<b>144.</b>	144	27501	A	A	N	N	A	A	A	N	N	N
<b>145.</b>	145	27633	A	A	N	N	A	A	N	N	A	N
<b>146.</b>	146	26872	A	A	N	N	A	A	N	N	N	N
<b>147.</b>	147	27429	A	A	A	N	A	A	A	N	N	N
<b>148.</b>	148	27561	A	A	N	N	A	N	N	N	A	N
<b>149.</b>	149	28162	A	A	N	N	A	A	N	N	A	N
<b>150.</b>	150	28210	A	A	A	N	A	A	N	N	N	N
<b>151.</b>	151	28521	A	A	A	N	A	A	A	N	N	N
<b>152.</b>	152	28793	A	A	N	N	A	N	N	N	N	N
<b>153.</b>	153	28830	A	A	N	N	A	A	A	N	A	N
<b>154.</b>	154	29247	A	A	A	N	A	N	N	N	N	N
<b>155.</b>	155	29384	A	A	N	N	A	A	N	N	N	N
<b>156.</b>	156	29452	A	A	A	N	A	A	N	N	N	N
<b>157.</b>	157	29510	A	A	N	N	A	N	N	N	N	N
<b>158.</b>	158	29721	A	A	N	N	A	N	N	N	A	N



<b>159.</b>	159	29864	A	A	N	N	A	A	N	N	N	N
<b>160.</b>	160	29910	A	A	N	N	A	N	A	N	A	N
<b>161.</b>	161	30049	A	A	A	N	A	N	A	N	A	N
<b>162.</b>	162	30173	A	A	N	N	A	N	A	N	N	N
<b>163.</b>	163	30241	A	A	N	N	A	A	N	N	N	N
<b>164.</b>	164	30366	A	A	N	N	A	A	A	N	N	N
<b>165.</b>	165	30411	A	A	N	N	A	A	N	N	A	N
<b>166.</b>	166	30501	A	A	N	N	A	A	N	N	N	N
<b>167.</b>	167	30621	A	A	A	N	A	A	A	N	N	N
<b>168.</b>	168	31010	A	A	N	N	A	N	N	N	A	N
<b>169.</b>	169	31172	A	A	N	N	A	A	N	N	A	N
<b>170.</b>	170	31620	A	A	A	N	A	A	N	N	N	N
<b>171.</b>	171	32721	A	A	A	N	A	A	A	N	N	N
<b>172.</b>	172	33105	A	A	N	N	A	N	N	N	N	N
<b>173.</b>	173	33691	A	A	N	N	A	A	A	N	A	N
<b>174.</b>	174	34232	A	A	A	N	A	N	N	N	N	N
<b>175.</b>	175	34509	A	A	N	N	A	A	N	N	N	N
<b>176.</b>	176	34962	A	A	A	N	A	A	N	N	N	N
<b>177.</b>	177	35002	A	A	N	N	A	N	N	N	N	N
<b>178.</b>	178	35179	A	A	N	N	A	N	N	N	A	N
<b>179.</b>	179	35301	A	A	N	N	A	A	N	N	N	N
<b>180.</b>	180	35597	A	A	N	N	A	N	A	N	A	N
<b>181.</b>	181	35719	A	A	A	N	A	N	A	N	A	N
<b>182.</b>	182	35962	A	A	N	N	A	N	A	N	N	N
<b>183.</b>	183	36610	A	A	N	N	A	A	N	N	N	N
<b>184.</b>	184	37201	A	A	N	N	A	A	A	N	N	N
<b>185.</b>	185	37724	A	A	N	N	A	A	N	N	A	N

186.	186	38072	A	A	N	N	A	A	N	N	N	N
187.	187	38288	A	A	A	N	A	A	A	N	N	N
188.	188	38452	A	A	N	N	A	N	N	N	A	N
189.	189	38920	A	A	N	N	A	A	N	N	A	N
190.	190	39100	A	A	A	N	A	A	N	N	N	N
191.	191	39292	A	A	A	N	A	A	A	N	N	N
192.	192	39427	A	A	N	N	A	N	N	N	N	N
193.	193	39546	A	A	N	N	A	A	A	N	A	N
194.	194	39767	A	A	A	N	A	N	N	N	N	N
195.	195	40450	A	A	N	N	A	A	N	N	N	N
196.	196	40695	A	A	A	N	A	A	N	N	N	N
197.	197	41293	A	A	N	N	A	N	N	N	N	N
198.	198	41573	A	A	N	N	A	N	N	N	A	N
199.	199	41921	A	A	N	N	A	A	N	N	N	N
200.	200	42206	A	A	N	N	A	N	A	N	A	N

1) Anar pitham 2) Ranjagam 3) Saathagam 4) Aalosagam 5) Praasagam

6) Santhigam 7) Pothagam 8) Avalambagam 9) Kilethagam 10) Tharpagam

**All cases (100%) have affected Ranjagam and Anar pitham. In 40% cases Praasagam and 30% cases Saathagam affected. In 60% cases Avalambagam affected. In 35% cases Kilethagam affected. 35% cases Pothagam affected, 40% cases affected Santhigam.**

**TABLE – 19                      STATUS OF UDAL THATHUKAL**

<b>SL. NO.</b>	<b>Reg. NO</b>	<b>OP./ IP NO.</b>	<b>Saaram</b>	<b>Senneer</b>	<b>Oon</b>	<b>Kozhuppu</b>	<b>Enbu</b>	<b>Moolai</b>	<b>Sukkilam</b>
<b>1.</b>	1	56293	A	A	A	A	N	N	N
<b>2.</b>	2	56858	A	A	A	A	N	N	N
<b>3.</b>	3	58864	A	A	A	A	N	N	N
<b>4.</b>	4	60036	A	A	A	A	N	N	N
<b>5.</b>	5	61303	A	A	A	A	N	N	N
<b>6.</b>	6	61543	A	A	A	A	N	N	N
<b>7.</b>	7	66475	A	A	A	A	N	N	N
<b>8.</b>	8	67600	A	A	A	A	N	N	N
<b>9.</b>	9	67895	A	A	A	A	N	N	N
<b>10.</b>	10	69513	A	A	A	A	N	N	N
<b>11.</b>	11	71438	A	A	A	A	N	N	N
<b>12.</b>	12	72905	A	A	A	A	N	N	N
<b>13.</b>	13	72901	A	A	A	A	N	N	N
<b>14.</b>	14	74408	A	A	A	A	N	N	N
<b>15.</b>	15	74406	A	A	A	A	N	N	N
<b>16.</b>	16	74407	A	A	A	A	N	N	N
<b>17.</b>	17	105004	A	A	A	A	N	N	N
<b>18.</b>	18	106313	A	A	A	A	N	N	N
<b>19.</b>	19	106359	A	A	A	A	N	N	N
<b>20.</b>	20	106557	A	A	A	A	N	N	N
<b>21.</b>	21	106603	A	A	A	A	N	N	N
<b>22.</b>	22	106956	A	A	A	A	N	N	N
<b>23.</b>	23	107249	A	A	A	A	N	N	N
<b>24.</b>	24	107308	A	A	A	A	N	N	N
<b>25.</b>	25	107741	A	A	A	A	N	N	N
<b>26.</b>	26	107771	A	A	A	A	N	N	N

27.	27	108346	A	A	A	A	N	N	N
28.	28	108443	A	A	A	A	N	N	N
29.	29	110873	A	A	A	A	N	N	N
30.	30	110832	A	A	A	A	N	N	N
31.	31	111240	A	A	A	A	N	N	N
32.	32	111241	A	A	A	A	N	N	N
33.	33	112338	A	A	A	A	N	N	N
34.	34	112760	A	A	A	A	N	N	N
35.	35	112629	A	A	A	A	N	N	N
36.	36	3358	A	A	A	A	N	N	N
37.	37	16	A	A	A	A	N	N	N
38.	38	23	A	A	A	A	N	N	N
39.	39	226	A	A	A	A	N	N	N
40.	40	599	A	A	A	A	N	N	N
41.	41	808	A	A	A	A	N	N	N
42.	42	1325	A	A	A	A	N	N	N
43.	43	2024	A	A	A	A	N	N	N
44.	44	2026	A	A	A	A	N	N	N
45.	45	2282	A	A	A	A	N	N	N
46.	46	2968	A	A	A	A	N	N	N
47.	47	3072	A	A	A	A	N	N	N
48.	48	3401	A	A	A	A	N	N	N
49.	49	3687	A	A	A	A	N	N	N
50.	50	3567	A	A	A	A	N	N	N
51.	51	4114	A	A	A	A	N	N	N
52.	52	4441	A	A	A	A	N	N	N
53.	53	4610	A	A	A	A	N	N	N
54.	54	4923	A	A	A	A	N	N	N
55.	55	5221	A	A	A	A	N	N	N
56.	56	5531	A	A	A	A	N	N	N

<b>57.</b>	57	5856	A	A	A	A	N	N	N
<b>58.</b>	58	6266	A	A	A	A	N	N	N
<b>59.</b>	59	6626	A	A	A	A	N	N	N
<b>60.</b>	60	7256	A	A	A	A	N	N	N
<b>61.</b>	61	7746	A	A	A	A	N	N	N
<b>62.</b>	62	7843	A	A	A	A	N	N	N
<b>63.</b>	63	8092	A	A	A	A	N	N	N
<b>64.</b>	64	8463	A	A	A	A	N	N	N
<b>65.</b>	65	8530	A	A	A	A	N	N	N
<b>66.</b>	66	9018	A	A	A	A	N	N	N
<b>67.</b>	67	9744	A	A	A	A	N	N	N
<b>68.</b>	68	9929	A	A	A	A	N	N	N
<b>69.</b>	69	10180	A	A	A	A	N	N	N
<b>70.</b>	70	10217	A	A	A	A	N	N	N
<b>71.</b>	71	10300	A	A	A	A	N	N	N
<b>72.</b>	72	10384	A	A	A	A	N	N	N
<b>73.</b>	73	10756	A	A	A	A	N	N	N
<b>74.</b>	74	11408	A	A	A	A	N	N	N
<b>75.</b>	75	11367	A	A	A	A	N	N	N
<b>76.</b>	76	11528	A	A	A	A	N	N	N
<b>77.</b>	77	11955	A	A	A	A	N	N	N
<b>78.</b>	78	12265	A	A	A	A	N	N	N
<b>79.</b>	79	12615	A	A	A	A	N	N	N
<b>80.</b>	80	12868	A	A	A	A	N	N	N
<b>81.</b>	81	13158	A	A	A	A	N	N	N
<b>82.</b>	82	13523	A	A	A	A	N	N	N
<b>83.</b>	83	14210	A	A	A	A	N	N	N
<b>84.</b>	84	14380	A	A	A	A	N	N	N
<b>85.</b>	85	14274	A	A	A	A	N	N	N
<b>86.</b>	86	14534	A	A	A	A	N	N	N

<b>87.</b>	87	15062	A	A	A	A	N	N	N
<b>88.</b>	88	16084	A	A	A	A	N	N	N
<b>89.</b>	89	16850	A	A	A	A	N	N	N
<b>90.</b>	90	17087	A	A	A	A	N	N	N
<b>91.</b>	91	17221	A	A	A	A	N	N	N
<b>92.</b>	92	17808	A	A	A	A	N	N	N
<b>93.</b>	93	18084	A	A	A	A	N	N	N
<b>94.</b>	94	18168	A	A	A	A	N	N	N
<b>95.</b>	95	18529	A	A	A	A	N	N	N
<b>96.</b>	96	18897	A	A	A	A	N	N	N
<b>97.</b>	97	19288	A	A	A	A	N	N	N
<b>98.</b>	98	19304	A	A	A	A	N	N	N
<b>99.</b>	99	19636	A	A	A	A	N	N	N
<b>100.</b>	100	19689	A	A	A	A	N	N	N
<b>101.</b>	101	20144	A	A	A	A	N	N	N
<b>102.</b>	102	20222	A	A	A	A	N	N	N
<b>103.</b>	103	20385	A	A	A	A	N	N	N
<b>104.</b>	104	21230	A	A	A	A	N	N	N
<b>105.</b>	105	21556	A	A	A	A	N	N	N
<b>106.</b>	106	20916	A	A	A	A	N	N	N
<b>107.</b>	107	20996	A	A	A	A	N	N	N
<b>108.</b>	108	21200	A	A	A	A	N	N	N
<b>109.</b>	109	21514	A	A	A	A	N	N	N
<b>110.</b>	110	21728	A	A	A	A	N	N	N
<b>111.</b>	111	21730	A	A	A	A	N	N	N
<b>112.</b>	112	21753	A	A	A	A	N	N	N
<b>113.</b>	113	21937	A	A	A	A	N	N	N
<b>114.</b>	114	21962	A	A	A	A	N	N	N
<b>115.</b>	115	22201	A	A	A	A	N	N	N
<b>116.</b>	116	22396	A	A	A	A	N	N	N

<b>117.</b>	117	22415	A	A	A	A	N	N	N
<b>118.</b>	118	22690	A	A	A	A	N	N	N
<b>119.</b>	119	22742	A	A	A	A	N	N	N
<b>120.</b>	120	23191	A	A	A	A	N	N	N
<b>121.</b>	121	23320	A	A	A	A	N	N	N
<b>122.</b>	122	23421	A	A	A	A	N	N	N
<b>123.</b>	123	23537	A	A	A	A	N	N	N
<b>124.</b>	124	23741	A	A	A	A	N	N	N
<b>125.</b>	125	23787	A	A	A	A	N	N	N
<b>126.</b>	126	24000	A	A	A	A	N	N	N
<b>127.</b>	127	24148	A	A	A	A	N	N	N
<b>128.</b>	128	24210	A	A	A	A	N	N	N
<b>129.</b>	129	24602	A	A	A	A	N	N	N
<b>130.</b>	130	24882	A	A	A	A	N	N	N
<b>131.</b>	131	24900	A	A	A	A	N	N	N
<b>132.</b>	132	24998	A	A	A	A	N	N	N
<b>133.</b>	133	25000	A	A	A	A	N	N	N
<b>134.</b>	134	25421	A	A	A	A	N	N	N
<b>135.</b>	135	25645	A	A	A	A	N	N	N
<b>136.</b>	136	25690	A	A	A	A	N	N	N
<b>137.</b>	137	25969	A	A	A	A	N	N	N
<b>138.</b>	138	25999	A	A	A	A	N	N	N
<b>139.</b>	139	25321	A	A	A	A	N	N	N
<b>140.</b>	140	26495	A	A	A	A	N	N	N
<b>141.</b>	141	26527	A	A	A	A	N	N	N
<b>142.</b>	142	26972	A	A	A	A	N	N	N
<b>143.</b>	143	27332	A	A	A	A	N	N	N
<b>144.</b>	144	27501	A	A	A	A	N	N	N
<b>145.</b>	145	27633	A	A	A	A	N	N	N
<b>146.</b>	146	26872	A	A	A	A	N	N	N

<b>147.</b>	147	27429	A	A	A	A	N	N	N
<b>148.</b>	148	27561	A	A	A	A	N	N	N
<b>149.</b>	149	28162	A	A	A	A	N	N	N
<b>150.</b>	150	28210	A	A	A	A	N	N	N
<b>151.</b>	151	28521	A	A	A	A	N	N	N
<b>152.</b>	152	28793	A	A	A	A	N	N	N
<b>153.</b>	153	28830	A	A	A	A	N	N	N
<b>154.</b>	154	29247	A	A	A	A	N	N	N
<b>155.</b>	155	29384	A	A	A	A	N	N	N
<b>156.</b>	156	29452	A	A	A	A	N	N	N
<b>157.</b>	157	29510	A	A	A	A	N	N	N
<b>158.</b>	158	29721	A	A	A	A	N	N	N
<b>159.</b>	159	29864	A	A	A	A	N	N	N
<b>160.</b>	160	29910	A	A	A	A	N	N	N
<b>161.</b>	161	30049	A	A	A	A	N	N	N
<b>162.</b>	162	30173	A	A	A	A	N	N	N
<b>163.</b>	163	30241	A	A	A	A	N	N	N
<b>164.</b>	164	30366	A	A	A	A	N	N	N
<b>165.</b>	165	30411	A	A	A	A	N	N	N
<b>166.</b>	166	30501	A	A	A	A	N	N	N
<b>167.</b>	167	30621	A	A	A	A	N	N	N
<b>168.</b>	168	31010	A	A	A	A	N	N	N
<b>169.</b>	169	31172	A	A	A	A	N	N	N
<b>170.</b>	170	31620	A	A	A	A	N	N	N
<b>171.</b>	171	32721	A	A	A	A	N	N	N
<b>172.</b>	172	33105	A	A	A	A	N	N	N
<b>173.</b>	173	33691	A	A	A	A	N	N	N
<b>174.</b>	174	34232	A	A	A	A	N	N	N
<b>175.</b>	175	34509	A	A	A	A	N	N	N
<b>176.</b>	176	34962	A	A	A	A	N	N	N



177.	177	35002	A	A	A	A	N	N	N
178.	178	35179	A	A	A	A	N	N	N
179.	179	35301	A	A	A	A	N	N	N
180.	180	35597	A	A	A	A	N	N	N
181.	181	35719	A	A	A	A	N	N	N
182.	182	35962	A	A	A	A	N	N	N
183.	183	36610	A	A	A	A	N	N	N
184.	184	37201	A	A	A	A	N	N	N
185.	185	37724	A	A	A	A	N	N	N
186.	186	38072	A	A	A	A	N	N	N
187.	187	38288	A	A	A	A	N	N	N
188.	188	38452	A	A	A	A	N	N	N
189.	189	38920	A	A	A	A	N	N	N
190.	190	39100	A	A	A	A	N	N	N
191.	191	39292	A	A	A	A	N	N	N
192.	192	39427	A	A	A	A	N	N	N
193.	193	39546	A	A	A	A	N	N	N
194.	194	39767	A	A	A	A	N	N	N
195.	195	40450	A	A	A	A	N	N	N
196.	196	40695	A	A	A	A	N	N	N
197.	197	41293	A	A	A	A	N	N	N
198.	198	41573	A	A	A	A	N	N	N
199.	199	41921	A	A	A	A	N	N	N
200.	200	42206	A	A	A	A	N	N	N

A - Affected, N - Affected

**100% of cases affected with Udal thathus - Saaram, Senneer, Oon and Kozhuppu.**

**TABLE –20**  
**ENVAGAI THERVUGAL**

<b>SL. NO.</b>	<b>Reg. NO</b>	<b>OP./ IP NO.</b>	<b>Naa</b>	<b>Niram</b>	<b>Mozhi</b>	<b>Vizhi</b>	<b>Mei</b>	<b>Naadi</b>
<b>1.</b>	1	56293	MP	A	LP	BS	K	KV
<b>2.</b>	2	56858	MP	VK	LP	BS	K	VP
<b>3.</b>	3	58864	A	A	LP	N	K	KV
<b>4.</b>	4	60036	MP	A	LP	BS	K	KV
<b>5.</b>	5	61303	MP	A	LP	N	K	VK
<b>6.</b>	6	61543	MP	A	LP	N	K	KP
<b>7.</b>	7	66475	A	A	LP	BS	K	KV
<b>8.</b>	8	67600	A	VK	LP	N	K	PV
<b>9.</b>	9	67895	MP	A	LP	N	K	VK
<b>10.</b>	10	69513	A	A	LP	N	K	KV
<b>11.</b>	11	71438	A	VK	LP	BS	K	PV
<b>12.</b>	12	72905	A	VK	LP	N	K	KV
<b>13.</b>	13	72901	A	A	MP	BS	K	KV
<b>14.</b>	14	74408	MP	VK	MP	N	K	KV
<b>15.</b>	15	74406	MP	VK	LP	N	K	KV
<b>16.</b>	16	74407	MP	VK	MP	N	K	VK
<b>17.</b>	17	105004	MP	A	MP	N	K	VK
<b>18.</b>	18	106313	A	A	LP	BS	K	VK
<b>19.</b>	19	106359	A	VK	LP	N	K	VK
<b>20.</b>	20	106557	A	A	MP	BS	K	PK
<b>21.</b>	21	106603	MP	A	LP	BS	K	KV
<b>22.</b>	22	106956	MP	VK	LP	BS	K	KV
<b>23.</b>	23	107249	A	A	LP	N	K	KV
<b>24.</b>	24	107308	MP	A	LP	BS	K	KV
<b>25.</b>	25	107741	MP	A	LP	N	K	KV

<b>26.</b>	26	107771	MP	A	LP	N	K	VK
<b>27.</b>	27	108346	A	A	LP	BS	K	VK
<b>28.</b>	28	108443	A	VK	LP	N	K	VK
<b>29.</b>	29	110873	MP	A	LP	N	K	PV
<b>30.</b>	30	110832	A	A	LP	N	K	VP
<b>31.</b>	31	111240	A	VK	LP	BS	K	VK
<b>32.</b>	32	111241	A	VK	LP	N	K	VK
<b>33.</b>	33	112338	A	A	MP	BS	K	KV
<b>34.</b>	34	112760	MP	VK	MP	N	K	KV
<b>35.</b>	35	112629	MP	VK	LP	N	K	KP
<b>36.</b>	36	3358	MP	VK	MP	N	K	KV
<b>37.</b>	37	16	MP	A	MP	N	K	KP
<b>38.</b>	38	23	A	A	LP	BS	K	VK
<b>39.</b>	39	226	A	VK	LP	N	K	PK
<b>40.</b>	40	599	A	A	MP	BS	N	KV
<b>41.</b>	41	808	MP	A	LP	BS	N	KV
<b>42.</b>	42	1325	MP	VK	LP	BS	N	KV
<b>43.</b>	43	2024	A	A	LP	N	N	KV
<b>44.</b>	44	2026	MP	A	LP	BS	N	KV
<b>45.</b>	45	2282	MP	A	LP	N	N	PK
<b>46.</b>	46	2968	MP	A	LP	N	N	KP
<b>47.</b>	47	3072	A	A	LP	BS	N	KV
<b>48.</b>	48	3401	A	VK	LP	N	N	VK
<b>49.</b>	49	3687	MP	A	LP	N	K	VP
<b>50.</b>	50	3567	A	A	LP	N	K	KV
<b>51.</b>	51	4114	A	VK	LP	BS	K	KV
<b>52.</b>	52	4441	A	VK	LP	N	K	KV

<b>53.</b>	53	4610	A	A	MP	BS	K	PK
<b>54.</b>	54	4923	MP	VK	MP	N	K	VP
<b>55.</b>	55	5221	MP	VK	LP	N	K	VP
<b>56.</b>	56	5531	MP	VK	MP	N	K	VP
<b>57.</b>	57	5856	MP	A	MP	N	K	KV
<b>58.</b>	58	6266	A	A	LP	BS	K	KV
<b>59.</b>	59	6626	A	VK	LP	N	N	KV
<b>60.</b>	60	7256	A	A	MP	BS	N	KV
<b>61.</b>	61	7746	MP	A	LP	BS	N	KV
<b>62.</b>	62	7843	MP	VK	LP	BS	N	VK
<b>63.</b>	63	8092	A	A	LP	N	N	VP
<b>64.</b>	64	8463	MP	A	LP	BS	N	VP
<b>65.</b>	65	8530	MP	A	LP	N	N	KP
<b>66.</b>	66	9018	MP	A	LP	N	N	PV
<b>67.</b>	67	9744	A	A	LP	BS	N	PV
<b>68.</b>	68	9929	A	VK	LP	N	K	KV
<b>69.</b>	69	10180	MP	A	LP	N	K	PV
<b>70.</b>	70	10217	A	A	LP	N	K	KV
<b>71.</b>	71	10300	A	VK	LP	BS	K	KP
<b>72.</b>	72	10384	A	VK	LP	N	K	VP
<b>73.</b>	73	10756	A	A	MP	BS	K	KP
<b>74.</b>	74	11408	MP	VK	MP	N	K	VK
<b>75.</b>	75	11367	MP	VK	LP	N	K	VK
<b>76.</b>	76	11528	MP	VK	MP	N	K	VK
<b>77.</b>	77	11955	MP	A	MP	N	K	VK
<b>78.</b>	78	12265	A	A	LP	BS	K	VK
<b>79.</b>	79	12615	A	VK	LP	N	K	KV

<b>80.</b>	80	12868	A	A	MP	BS	K	KV
<b>81.</b>	81	13158	MP	A	LP	BS	K	KV
<b>82.</b>	82	13523	MP	VK	LP	BS	K	KV
<b>83.</b>	83	14210	A	A	LP	N	K	KV
<b>84.</b>	84	14380	MP	A	LP	BS	K	KV
<b>85.</b>	85	14274	MP	A	LP	N	K	KV
<b>86.</b>	86	14534	MP	A	LP	N	K	KV
<b>87.</b>	87	15062	A	A	LP	BS	K	PV
<b>88.</b>	88	16084	A	VK	LP	N	K	PV
<b>89.</b>	89	16850	MP	A	LP	N	N	PV
<b>90.</b>	90	17087	A	A	LP	N	N	PV
<b>91.</b>	91	17221	A	VK	LP	BS	N	KV
<b>92.</b>	92	17808	A	VK	LP	N	N	VK
<b>93.</b>	93	18084	A	A	MP	BS	N	VK
<b>94.</b>	94	18168	MP	VK	MP	N	N	VK
<b>95.</b>	95	18529	MP	VK	LP	N	N	VK
<b>96.</b>	96	18897	MP	VK	MP	N	N	VK
<b>97.</b>	97	19288	MP	A	MP	N	N	VP
<b>98.</b>	98	19304	A	A	LP	BS	N	PK
<b>99.</b>	99	19636	A	VK	LP	N	K	PK
<b>100.</b>	100	19689	A	A	MP	BS	K	KV
<b>101.</b>	101	20144	MP	A	LP	BS	K	KP
<b>102.</b>	102	20222	MP	VK	LP	BS	K	VK
<b>103.</b>	103	20385	A	A	LP	N	K	VK
<b>104.</b>	104	21230	MP	A	LP	BS	K	VK
<b>105.</b>	105	21556	MP	A	LP	N	K	VK
<b>106.</b>	106	20916	MP	A	LP	N	K	KV

<b>107.</b>	107	20996	A	A	LP	BS	K	KV
<b>108.</b>	108	21200	A	VK	LP	N	K	KV
<b>109.</b>	109	21514	MP	A	LP	N	K	KV
<b>110.</b>	110	21728	A	A	LP	N	K	KV
<b>111.</b>	111	21730	A	VK	LP	BS	K	KV
<b>112.</b>	112	21753	A	VK	LP	N	K	KP
<b>113.</b>	113	21937	A	A	MP	BS	N	KP
<b>114.</b>	114	21962	MP	VK	MP	N	N	KV
<b>115.</b>	115	22201	MP	VK	LP	N	K	VK
<b>116.</b>	116	22396	MP	VK	MP	N	K	VK
<b>117.</b>	117	22415	MP	A	MP	N	K	VK
<b>118.</b>	118	22690	A	A	LP	BS	K	KV
<b>119.</b>	119	22742	A	VK	LP	N	K	KV
<b>120.</b>	120	23191	A	A	MP	BS	K	KV
<b>121.</b>	121	23320	MP	A	LP	BS	K	KV
<b>122.</b>	122	23421	MP	VK	LP	BS	K	KV
<b>123.</b>	123	23537	A	A	LP	N	K	KV
<b>124.</b>	124	23741	MP	A	LP	BS	K	KV
<b>125.</b>	125	23787	MP	A	LP	N	K	KP
<b>126.</b>	126	24000	MP	A	LP	N	K	KV
<b>127.</b>	127	24148	A	A	LP	BS	K	PK
<b>128.</b>	128	24210	A	VK	LP	N	K	PV
<b>129.</b>	129	24602	MP	A	LP	N	K	VK
<b>130.</b>	130	24882	A	A	LP	N	K	VK
<b>131.</b>	131	24900	A	VK	LP	BS	K	VP
<b>132.</b>	132	24998	A	VK	LP	N	K	VK
<b>133.</b>	133	25000	A	A	MP	BS	K	VK

<b>134.</b>	134	25421	MP	VK	MP	N	K	VP
<b>135.</b>	135	25645	MP	VK	LP	N	K	PV
<b>136.</b>	136	25690	MP	VK	MP	N	K	PV
<b>137.</b>	137	25969	MP	A	MP	N	K	PV
<b>138.</b>	138	25999	A	A	LP	BS	N	PK
<b>139.</b>	139	25321	A	VK	LP	N	N	PK
<b>140.</b>	140	26495	A	A	MP	BS	N	PK
<b>141.</b>	141	26527	MP	A	LP	BS	N	PK
<b>142.</b>	142	26972	MP	VK	LP	BS	N	PV
<b>143.</b>	143	27332	A	A	LP	N	K	VP
<b>144.</b>	144	27501	MP	A	LP	BS	K	KV
<b>145.</b>	145	27633	MP	A	LP	N	K	KV
<b>146.</b>	146	26872	MP	A	LP	N	K	KV
<b>147.</b>	147	27429	A	A	LP	BS	K	KV
<b>148.</b>	148	27561	A	VK	LP	N	K	KV
<b>149.</b>	149	28162	MP	A	LP	N	K	KV
<b>150.</b>	150	28210	A	A	LP	N	K	KV
<b>151.</b>	151	28521	A	VK	LP	BS	K	KV
<b>152.</b>	152	28793	A	VK	LP	N	K	KV
<b>153.</b>	153	28830	A	A	MP	BS	N	KV
<b>154.</b>	154	29247	MP	VK	MP	N	N	VK
<b>155.</b>	155	29384	MP	VK	LP	N	N	VK
<b>156.</b>	156	29452	MP	VK	MP	N	K	VK
<b>157.</b>	157	29510	MP	A	MP	N	K	PK
<b>158.</b>	158	29721	A	A	LP	BS	K	KP
<b>159.</b>	159	29864	A	VK	LP	N	K	VK
<b>160.</b>	160	29910	A	A	MP	BS	K	VK

<b>161.</b>	161	30049	MP	A	LP	BS	K	VK
<b>162.</b>	162	30173	MP	VK	LP	BS	K	KV
<b>163.</b>	163	30241	A	A	LP	N	K	KV
<b>164.</b>	164	30366	MP	A	LP	BS	K	KV
<b>165.</b>	165	30411	MP	A	LP	N	K	PK
<b>166.</b>	166	30501	MP	A	LP	N	K	PK
<b>167.</b>	167	30621	A	A	LP	BS	K	PK
<b>168.</b>	168	31010	A	VK	LP	N	K	VK
<b>169.</b>	169	31172	MP	A	LP	N	K	VK
<b>170.</b>	170	31620	A	A	LP	N	K	KV
<b>171.</b>	171	32721	A	VK	LP	BS	N	KV
<b>172.</b>	172	33105	A	VK	LP	N	N	KV
<b>173.</b>	173	33691	A	A	MP	BS	N	KV
<b>174.</b>	174	34232	MP	UP	MP	N	N	KV
<b>175.</b>	175	34509	MP	UP	LP	N	N	VK
<b>176.</b>	176	34962	MP	UP	MP	N	N	VK
<b>177.</b>	177	35002	MP	A	MP	N	N	VK
<b>178.</b>	178	35179	A	A	LP	BS	N	KV
<b>179.</b>	179	35301	A	VK	LP	N	K	KV
<b>180.</b>	180	35597	A	A	MP	BS	K	KV
<b>181.</b>	181	35719	MP	A	LP	BS	K	KV
<b>182.</b>	182	35962	MP	VK	LP	BS	K	KV
<b>183.</b>	183	36610	A	A	LP	N	K	PK
<b>184.</b>	184	37201	MP	A	LP	BS	K	PK
<b>185.</b>	185	37724	MP	A	LP	N	K	KP
<b>186.</b>	186	38072	MP	A	LP	N	K	KV
<b>187.</b>	187	38288	A	A	LP	BS	K	VK



<b>188.</b>	188	38452	A	VK	LP	N	K	VK
<b>189.</b>	189	38920	MP	A	LP	N	K	PK
<b>190.</b>	190	39100	A	A	LP	N	K	PV
<b>191.</b>	191	39292	A	VK	LP	BS	N	PK
<b>192.</b>	192	39427	A	VK	LP	N	N	PV
<b>193.</b>	193	39546	A	A	MP	BS	K	PK
<b>194.</b>	194	39767	MP	VK	MP	N	K	KV
<b>195.</b>	195	40450	MP	VK	LP	N	K	PV
<b>196.</b>	196	40695	MP	VK	MP	N	K	VP
<b>197.</b>	197	41293	MP	A	MP	N	K	PK
<b>198.</b>	198	41573	A	A	LP	BS	K	KV
<b>199.</b>	199	41921	A	VK	LP	N	K	KV
<b>200.</b>	200	42206	A	A	MP	BS	K	KV

**TABLE - 21**

<b>S. NO</b>	<b>NAADI</b>	<b>No. of CASES</b>	<b>PERCENTAGE</b>
1.	Vatha Kapham	48	24
2.	Vatha Pitham	18	9
3.	Pitha Kapham	21	10.5
4.	Pitha Vatham	16	8
5.	Kapha Vatham	86	43
6.	Kapha Pitham	11	5.5

**A -Absent , N-Normal , K-Kulirchi, MP-Maa padithal, VK-Veluthu kaanal , LP-Low pitch, MP-Medium Pitch, Bs-Burning, PV- Pithavatham, PK-Pithakabam, VK- Vathakabam, VP-Pithavatham, KV-Kaphavatham, KP-Kaphapitham**

**TABLE – 22 MALAM**

<b>SL.NO.</b>	<b>Reg.NO</b>	<b>OP. NO.</b>	<b>No. of times per day</b>	<b>Quantity</b>	<b>Colour (Niram)</b>	<b>Constipation</b>	<b>Loose Stools</b>
<b>1.</b>	1	56293	1	R	N	P	A
<b>2.</b>	2	56858	2	N	N	A	A
<b>3.</b>	3	58864	2	N	N	A	A
<b>4.</b>	4	60036	1	N	N	A	A
<b>5.</b>	5	61303	1	N	N	P	A
<b>6.</b>	6	61543	3	N	N	A	A
<b>7.</b>	7	66475	2	N	N	A	P
<b>8.</b>	8	67600	1	R	N	P	A
<b>9.</b>	9	67895	1	N	N	A	A
<b>10.</b>	10	69513	1	R	N	P	A
<b>11.</b>	11	71438	2	N	N	A	A
<b>12.</b>	12	72905	2	N	N	A	A
<b>13.</b>	13	72901	1	N	N	P	A
<b>14.</b>	14	74408	2	N	N	A	A
<b>15.</b>	15	74406	1	N	N	A	A
<b>16.</b>	16	74407	1	R	N	P	A
<b>17.</b>	17	105004	1	N	N	P	A
<b>18.</b>	18	106313	1	R	N	P	A
<b>19.</b>	19	106359	1	N	N	P	A
<b>20.</b>	20	106557	1	N	N	A	A
<b>21.</b>	21	106603	1	R	N	P	A
<b>22.</b>	22	106956	2	N	N	A	A
<b>23.</b>	23	107249	2	N	N	A	A
<b>24.</b>	24	107308	1	N	N	A	A
<b>25.</b>	25	107741	1	N	N	P	A
<b>26.</b>	26	107771	3	N	N	A	A

27.	27	108346	2	N	N	A	P
28.	28	108443	1	R	N	P	A
29.	29	110873	1	N	N	A	A
30.	30	110832	1	R	N	P	A
31.	31	111240	2	N	N	A	A
32.	32	111241	2	N	N	A	A
33.	33	112338	1	N	N	P	A
34.	34	112760	2	N	N	A	A
35.	35	112629	1	N	N	A	A
36.	36	3358	1	R	N	P	A
37.	37	16	1	N	N	P	A
38.	38	23	1	R	N	P	A
39.	39	226	1	N	N	P	A
40.	40	599	1	N	N	A	A
41.	41	808	1	R	N	P	A
42.	42	1325	2	N	N	A	A
43.	43	2024	2	N	N	A	A
44.	44	2026	1	N	N	A	A
45.	45	2282	1	N	N	P	A
46.	46	2968	3	N	N	A	A
47.	47	3072	2	N	N	A	P
48.	48	3401	1	R	N	P	A
49.	49	3687	1	N	N	A	A
50.	50	3567	1	R	N	P	A
51.	51	4114	2	N	N	A	A
52.	52	4441	2	N	N	A	A
53.	53	4610	1	N	N	P	A
54.	54	4923	2	N	N	A	A
55.	55	5221	1	N	N	A	A
56.	56	5531	1	R	N	P	A

57.	57	5856	1	N	N	P	A
58.	58	6266	1	R	N	P	A
59.	59	6626	1	N	N	P	A
60.	60	7256	1	N	N	A	A
61.	61	7746	1	R	N	P	A
62.	62	7843	2	N	N	A	A
63.	63	8092	2	N	N	A	A
64.	64	8463	1	N	N	A	A
65.	65	8530	1	N	N	P	A
66.	66	9018	3	N	N	A	A
67.	67	9744	2	N	N	A	P
68.	68	9929	1	R	N	P	A
69.	69	10180	1	N	N	A	A
70.	70	10217	1	R	N	P	A
71.	71	10300	2	N	N	A	A
72.	72	10384	2	N	N	A	A
73.	73	10756	1	N	N	P	A
74.	74	11408	2	N	N	A	A
75.	75	11367	1	N	N	A	A
76.	76	11528	1	R	N	P	A
77.	77	11955	1	N	N	P	A
78.	78	12265	1	R	N	P	A
79.	79	12615	1	N	N	P	A
80.	80	12868	1	N	N	A	A
81.	81	13158	1	R	N	P	A
82.	82	13523	2	N	N	A	A
83.	83	14210	2	N	N	A	A
84.	84	14380	1	N	N	A	A
85.	85	14274	1	N	N	P	A
86.	86	14534	3	N	N	A	A

<b>87.</b>	87	15062	2	N	N	A	P
<b>88.</b>	88	16084	1	R	N	P	A
<b>89.</b>	89	16850	1	N	N	A	A
<b>90.</b>	90	17087	1	R	N	P	A
<b>91.</b>	91	17221	2	N	N	A	A
<b>92.</b>	92	17808	2	N	N	A	A
<b>93.</b>	93	18084	1	N	N	P	A
<b>94.</b>	94	18168	2	N	N	A	A
<b>95.</b>	95	18529	1	N	N	A	A
<b>96.</b>	96	18897	1	R	N	P	A
<b>97.</b>	97	19288	1	N	N	P	A
<b>98.</b>	98	19304	1	R	N	P	A
<b>99.</b>	99	19636	1	N	N	P	A
<b>100.</b>	100	19689	1	N	N	A	A
<b>101.</b>	101	20144	1	R	N	P	A
<b>102.</b>	102	20222	2	N	N	A	A
<b>103.</b>	103	20385	2	N	N	A	A
<b>104.</b>	104	21230	1	N	N	A	A
<b>105.</b>	105	21556	1	N	N	P	A
<b>106.</b>	106	20916	3	N	N	A	A
<b>107.</b>	107	20996	2	N	N	A	P
<b>108.</b>	108	21200	1	R	N	P	A
<b>109.</b>	109	21514	1	N	N	A	A
<b>110.</b>	110	21728	1	R	N	P	A
<b>111.</b>	111	21730	2	N	N	A	A
<b>112.</b>	112	21753	2	N	N	A	A
<b>113.</b>	113	21937	1	N	N	P	A
<b>114.</b>	114	21962	2	N	N	A	A
<b>115.</b>	115	22201	1	N	N	A	A
<b>116.</b>	116	22396	1	R	N	P	A

<b>117.</b>	117	22415	1	N	N	P	A
<b>118.</b>	118	22690	1	R	N	P	A
<b>119.</b>	119	22742	1	N	N	P	A
<b>120.</b>	120	23191	1	N	N	A	A
<b>121.</b>	121	23320	1	R	N	P	A
<b>122.</b>	122	23421	2	N	N	A	A
<b>123.</b>	123	23537	2	N	N	A	A
<b>124.</b>	124	23741	1	N	N	A	A
<b>125.</b>	125	23787	1	N	N	P	A
<b>126.</b>	126	24000	3	N	N	A	A
<b>127.</b>	127	24148	2	N	N	A	P
<b>128.</b>	128	24210	1	R	N	P	A
<b>129.</b>	129	24602	1	N	N	A	A
<b>130.</b>	130	24882	1	R	N	P	A
<b>131.</b>	131	24900	2	N	N	A	A
<b>132.</b>	132	24998	2	N	N	A	A
<b>133.</b>	133	25000	1	N	N	P	A
<b>134.</b>	134	25421	2	N	N	A	A
<b>135.</b>	135	25645	1	N	N	A	A
<b>136.</b>	136	25690	1	R	N	P	A
<b>137.</b>	137	25969	1	N	N	P	A
<b>138.</b>	138	25999	1	R	N	P	A
<b>139.</b>	139	25321	1	N	N	P	A
<b>140.</b>	140	26495	1	N	N	A	A
<b>141.</b>	141	26527	1	R	N	P	A
<b>142.</b>	142	26972	2	N	N	A	A
<b>143.</b>	143	27332	2	N	N	A	A
<b>144.</b>	144	27501	1	N	N	A	A
<b>145.</b>	145	27633	1	N	N	P	A
<b>146.</b>	146	26872	3	N	N	A	A

<b>147.</b>	147	27429	2	N	N	A	P
<b>148.</b>	148	27561	1	R	N	P	A
<b>149.</b>	149	28162	1	N	N	A	A
<b>150.</b>	150	28210	1	R	N	P	A
<b>151.</b>	151	28521	2	N	N	A	A
<b>152.</b>	152	28793	2	N	N	A	A
<b>153.</b>	153	28830	1	N	N	P	A
<b>154.</b>	154	29247	2	N	N	A	A
<b>155.</b>	155	29384	1	N	N	A	A
<b>156.</b>	156	29452	1	R	N	P	A
<b>157.</b>	157	29510	1	N	N	P	A
<b>158.</b>	158	29721	1	R	N	P	A
<b>159.</b>	159	29864	1	N	N	P	A
<b>160.</b>	160	29910	1	N	N	A	A
<b>161.</b>	161	30049	1	R	N	P	A
<b>162.</b>	162	30173	2	N	N	A	A
<b>163.</b>	163	30241	2	N	N	A	A
<b>164.</b>	164	30366	1	N	N	A	A
<b>165.</b>	165	30411	1	N	N	P	A
<b>166.</b>	166	30501	3	N	N	A	A
<b>167.</b>	167	30621	2	N	N	A	P
<b>168.</b>	168	31010	1	R	N	P	A
<b>169.</b>	169	31172	1	N	N	A	A
<b>170.</b>	170	31620	1	R	N	P	A
<b>171.</b>	171	32721	2	N	N	A	A
<b>172.</b>	172	33105	2	N	N	A	A
<b>173.</b>	173	33691	1	N	N	P	A
<b>174.</b>	174	34232	2	N	N	A	A
<b>175.</b>	175	34509	1	N	N	A	A
<b>176.</b>	176	34962	1	R	N	P	A

177.	177	35002	1	N	N	P	A
178.	178	35179	1	R	N	P	A
179.	179	35301	1	N	N	P	A
180.	180	35597	1	N	N	A	A
181.	181	35719	1	R	N	P	A
182.	182	35962	2	N	N	A	A
183.	183	36610	2	N	N	A	A
184.	184	37201	1	N	N	A	A
185.	185	37724	1	N	N	P	A
186.	186	38072	3	N	N	A	A
187.	187	38288	2	N	N	A	P
188.	188	38452	1	R	N	P	A
189.	189	38920	1	N	N	A	A
190.	190	39100	1	R	N	P	A
191.	191	39292	2	N	N	A	A
192.	192	39427	2	N	N	A	A
193.	193	39546	1	N	N	P	A
194.	194	39767	2	N	N	A	A
195.	195	40450	1	N	N	A	A
196.	196	40695	1	R	N	P	A
197.	197	41293	1	N	N	P	A
198.	198	41573	1	R	N	P	A
199.	199	41921	1	N	N	P	A
200.	200	42206	1	N	N	A	A
Total				Normal 150 Reduced 50	Normal 200	Present 90 Absent 110	Present 10 Absent 190
Percentage (%)				Normal 75 Reduced 25	Normal 20	Present 45 Absent 55	Present 5 Absent 95

N-Norma, P – Present, A - Absent Y- Yellow, R-Reduced,

**Out of 200 cases were 100% normal.**

**Out of 200 cases 45% developed constipation. Out of 200 Cases 5% cases had loose stools.**



**TABLE – 23 NEER KURI**

<b>SL. NO.</b>	<b>Reg.NO</b>	<b>OP. NO.</b>	<b>COLOUR</b>	<b>Odour (Aromatic)</b>	<b>Froth</b>	<b>Deposits</b>
<b>1.</b>	1	56293	X	P	A	A
<b>2.</b>	2	56858	X	A	P	P
<b>3.</b>	3	58864	X	P	P	P
<b>4.</b>	4	60036	X	A	P	P
<b>5.</b>	5	61303	C	P	P	P
<b>6.</b>	6	61543	C	P	P	P
<b>7.</b>	7	66475	C	A	P	P
<b>8.</b>	8	67600	X	P	A	A
<b>9.</b>	9	67895	C	A	P	P
<b>10.</b>	10	69513	X	P	P	P
<b>11.</b>	11	71438	C	A	P	P
<b>12.</b>	12	72905	X	P	P	P
<b>13.</b>	13	72901	C	A	P	P
<b>14.</b>	14	74408	C	A	P	P
<b>15.</b>	15	74406	X	P	A	A
<b>16.</b>	16	74407	C	P	P	P
<b>17.</b>	17	105004	X	A	P	P
<b>18.</b>	18	106313	X	P	P	P
<b>19.</b>	19	106359	C	P	P	P
<b>20.</b>	20	106557	X	A	A	A
<b>21.</b>	21	106603	X	P	A	A
<b>22.</b>	22	106956	X	A	P	P
<b>23.</b>	23	107249	X	P	P	P
<b>24.</b>	24	107308	X	A	P	P
<b>25.</b>	25	107741	C	P	P	P
<b>26.</b>	26	107771	C	P	P	P
<b>27.</b>	27	108346	C	A	P	P
<b>28.</b>	28	108443	X	P	A	A

29.	29	110873	C	A	P	P
30.	30	110832	X	P	P	P
31.	31	111240	C	A	P	P
32.	32	111241	X	P	P	P
33.	33	112338	C	A	P	P
34.	34	112760	C	A	P	P
35.	35	112629	X	P	A	A
36.	36	3358	C	P	P	P
37.	37	16	X	A	P	P
38.	38	23	X	P	P	P
39.	39	226	C	P	P	P
40.	40	599	X	A	A	A
41.	41	808	X	P	A	A
42.	42	1325	X	A	P	P
43.	43	2024	X	P	P	P
44.	44	2026	X	A	P	P
45.	45	2282	C	P	P	P
46.	46	2968	C	P	P	P
47.	47	3072	C	A	P	P
48.	48	3401	X	P	A	A
49.	49	3687	C	A	P	P
50.	50	3567	X	P	P	P
51.	51	4114	C	A	P	P
52.	52	4441	X	P	P	P
53.	53	4610	C	A	P	P
54.	54	4923	C	A	P	P
55.	55	5221	X	P	A	A
56.	56	5531	C	P	P	P
57.	57	5856	X	A	P	P
58.	58	6266	X	P	P	P

59.	59	6626	C	P	P	P
60.	60	7256	X	A	A	A
61.	61	7746	X	P	A	A
62.	62	7843	X	A	P	P
63.	63	8092	X	P	P	P
64.	64	8463	X	A	P	P
65.	65	8530	C	P	P	P
66.	66	9018	C	P	P	P
67.	67	9744	C	A	P	P
68.	68	9929	X	P	A	A
69.	69	10180	C	A	P	P
70.	70	10217	X	P	P	P
71.	71	10300	C	A	P	P
72.	72	10384	X	P	P	P
73.	73	10756	C	A	P	P
74.	74	11408	C	A	P	P
75.	75	11367	X	P	A	A
76.	76	11528	C	P	P	P
77.	77	11955	X	A	P	P
78.	78	12265	X	P	P	P
79.	79	12615	C	P	P	P
80.	80	12868	X	A	A	A
81.	81	13158	X	P	A	A
82.	82	13523	X	A	P	P
83.	83	14210	X	P	P	P
84.	84	14380	X	A	P	P
85.	85	14274	C	P	P	P
86.	86	14534	C	P	P	P
87.	87	15062	C	A	P	P
88.	88	16084	X	P	A	A

<b>89.</b>	89	16850	C	A	P	P
<b>90.</b>	90	17087	X	P	P	P
<b>91.</b>	91	17221	C	A	P	P
<b>92.</b>	92	17808	X	P	P	P
<b>93.</b>	93	18084	C	A	P	P
<b>94.</b>	94	18168	C	A	P	P
<b>95.</b>	95	18529	X	P	A	A
<b>96.</b>	96	18897	C	P	P	P
<b>97.</b>	97	19288	X	A	P	P
<b>98.</b>	98	19304	X	P	P	P
<b>99.</b>	99	19636	C	P	P	P
<b>100.</b>	100	19689	X	A	A	A
<b>101.</b>	101	20144	X	P	A	A
<b>102.</b>	102	20222	X	A	P	P
<b>103.</b>	103	20385	X	P	P	P
<b>104.</b>	104	21230	X	A	P	P
<b>105.</b>	105	21556	C	P	P	P
<b>106.</b>	106	20916	C	P	P	P
<b>107.</b>	107	20996	C	A	P	P
<b>108.</b>	108	21200	X	P	A	A
<b>109.</b>	109	21514	C	A	P	P
<b>110.</b>	110	21728	X	P	P	P
<b>111.</b>	111	21730	C	A	P	P
<b>112.</b>	112	21753	X	P	P	P
<b>113.</b>	113	21937	C	A	P	P
<b>114.</b>	114	21962	C	A	P	P
<b>115.</b>	115	22201	X	P	A	A
<b>116.</b>	116	22396	C	P	P	P
<b>117.</b>	117	22415	X	A	P	P
<b>118.</b>	118	22690	X	P	P	P

<b>119.</b>	119	22742	C	P	P	P
<b>120.</b>	120	23191	X	A	A	A
<b>121.</b>	121	23320	X	P	A	A
<b>122.</b>	122	23421	X	A	P	P
<b>123.</b>	123	23537	X	P	P	P
<b>124.</b>	124	23741	X	A	P	P
<b>125.</b>	125	23787	C	P	P	P
<b>126.</b>	126	24000	C	P	P	P
<b>127.</b>	127	24148	C	A	P	P
<b>128.</b>	128	24210	X	P	A	A
<b>129.</b>	129	24602	C	A	P	P
<b>130.</b>	130	24882	X	P	P	P
<b>131.</b>	131	24900	C	A	P	P
<b>132.</b>	132	24998	X	P	P	P
<b>133.</b>	133	25000	C	A	P	P
<b>134.</b>	134	25421	C	A	P	P
<b>135.</b>	135	25645	X	P	A	A
<b>136.</b>	136	25690	C	P	P	P
<b>137.</b>	137	25969	X	A	P	P
<b>138.</b>	138	25999	X	P	P	P
<b>139.</b>	139	25321	C	P	P	P
<b>140.</b>	140	26495	X	A	A	A
<b>141.</b>	141	26527	X	P	A	A
<b>142.</b>	142	26972	X	A	P	P
<b>143.</b>	143	27332	X	P	P	P
<b>144.</b>	144	27501	X	A	P	P
<b>145.</b>	145	27633	C	P	P	P
<b>146.</b>	146	26872	C	P	P	P
<b>147.</b>	147	27429	C	A	P	P
<b>148.</b>	148	27561	X	P	A	A

<b>149.</b>	149	28162	C	A	P	P
<b>150.</b>	150	28210	X	P	P	P
<b>151.</b>	151	28521	C	A	P	P
<b>152.</b>	152	28793	X	P	P	P
<b>153.</b>	153	28830	C	A	P	P
<b>154.</b>	154	29247	C	A	P	P
<b>155.</b>	155	29384	X	P	A	A
<b>156.</b>	156	29452	C	P	P	P
<b>157.</b>	157	29510	X	A	P	P
<b>158.</b>	158	29721	X	P	P	P
<b>159.</b>	159	29864	C	P	P	P
<b>160.</b>	160	29910	X	A	A	A
<b>161.</b>	161	30049	X	P	A	A
<b>162.</b>	162	30173	X	A	P	P
<b>163.</b>	163	30241	X	P	P	P
<b>164.</b>	164	30366	X	A	P	P
<b>165.</b>	165	30411	C	P	P	P
<b>166.</b>	166	30501	C	P	P	P
<b>167.</b>	167	30621	C	A	P	P
<b>168.</b>	168	31010	X	P	A	A
<b>169.</b>	169	31172	C	A	P	P
<b>170.</b>	170	31620	X	P	P	P
<b>171.</b>	171	32721	C	A	P	P
<b>172.</b>	172	33105	X	P	P	P
<b>173.</b>	173	33691	C	A	P	P
<b>174.</b>	174	34232	C	A	P	P
<b>175.</b>	175	34509	X	P	A	A
<b>176.</b>	176	34962	C	P	P	P
<b>177.</b>	177	35002	X	A	P	P
<b>178.</b>	178	35179	X	P	P	P

179.	179	35301	C	P	P	P
180.	180	35597	X	A	A	A
181.	181	35719	X	P	A	A
182.	182	35962	X	A	P	P
183.	183	36610	X	P	P	P
184.	184	37201	X	A	P	P
185.	185	37724	C	P	P	P
186.	186	38072	C	P	P	P
187.	187	38288	C	A	P	P
188.	188	38452	X	P	A	A
189.	189	38920	C	A	P	P
190.	190	39100	X	P	P	P
191.	191	39292	C	A	P	P
192.	192	39427	X	P	P	P
193.	193	39546	C	A	P	P
194.	194	39767	C	A	P	P
195.	195	40450	X	P	A	A
196.	196	40695	C	P	P	P
197.	197	41293	X	A	P	P
198.	198	41573	X	P	P	P
199.	199	41921	C	P	P	P
200.	200	42206	X	A	A	A
Total			Pale Yellow 110 Cloudy 90	P-Present 110 A- Absent 90	P- Present 160 A-Absent 40	P - Present 160 A- Absent 40
Percentage			Pale Yello55 Cloudy 45	Present 55 Absent 45	Present 80 Absent20	Present 80 Absent 20

**X – Pale yellow, C – Cloudy, 45 % of cases have Cloudy urine and 55% have pale Yellow coloration of Urine 55% of cases have Aromatic order in Urine. 80% cases showed frothy urine.**

**TABLE-24****NEI KURI**

<b>SL. No</b>	<b>Reg. NO</b>	<b>OP. NO.</b>	<b>Rounded pattern</b>	<b>Rounded Fast Spread (Virainthu paraval)</b>	<b>Rounded Slow Spread (Mella paraval)</b>
1.	1	56293	P	A	A
2.	2	56858	P	A	A
3.	3	58864	P	A	A
4.	4	60036	P	A	A
5.	5	61303	P	A	A
6.	6	61543	P	A	A
7.	7	66475	P	A	A
8.	8	67600	P	A	A
9.	9	67895	P	A	A
10.	10	69513	P	A	A
11.	11	71438	P	A	A
12.	12	72905	P	A	A
13.	13	72901	P	A	A
14.	14	74408	P	A	A
15.	15	74406	A	A	P
16.	16	74407	P	A	A
17.	17	105004	P	A	A
18.	18	106313	P	A	A
19.	19	106359	A	A	P
20.	20	106557	P	A	A
21.	21	106603	P	A	A
22.	22	106956	P	A	A
23.	23	107249	P	A	A
24.	24	107308	P	A	A
25.	25	107741	P	A	A
26.	26	107771	P	A	A



<b>27.</b>	27	108346	P	A	A
<b>28.</b>	28	108443	P	A	A
<b>29.</b>	29	110873	P	A	A
<b>30.</b>	30	110832	P	A	A
<b>31.</b>	31	111240	P	A	A
<b>32.</b>	32	111241	P	A	A
<b>33.</b>	33	112338	P	A	A
<b>34.</b>	34	112760	P	A	A
<b>35.</b>	35	112629	A	A	P
<b>36.</b>	36	3358	P	A	A
<b>37.</b>	37	16	P	A	A
<b>38.</b>	38	23	P	A	A
<b>39.</b>	39	226	A	A	P
<b>40.</b>	40	599	P	A	A
<b>41.</b>	41	808	P	A	A
<b>42.</b>	42	1325	P	A	A
<b>43.</b>	43	2024	P	A	A
<b>44.</b>	44	2026	P	A	A
<b>45.</b>	45	2282	P	A	A
<b>46.</b>	46	2968	P	A	A
<b>47.</b>	47	3072	P	A	A
<b>48.</b>	48	3401	P	A	A
<b>49.</b>	49	3687	P	A	A
<b>50.</b>	50	3567	P	A	A
<b>51.</b>	51	4114	P	A	A
<b>52.</b>	52	4441	P	A	A
<b>53.</b>	53	4610	P	A	A
<b>54.</b>	54	4923	P	A	A
<b>55.</b>	55	5221	A	A	P
<b>56.</b>	56	5531	P	A	A

<b>57.</b>	57	5856	P	A	A
<b>58.</b>	58	6266	P	A	A
<b>59.</b>	59	6626	A	A	P
<b>60.</b>	60	7256	P	A	A
<b>61.</b>	61	7746	P	A	A
<b>62.</b>	62	7843	P	A	A
<b>63.</b>	63	8092	P	A	A
<b>64.</b>	64	8463	P	A	A
<b>65.</b>	65	8530	P	A	A
<b>66.</b>	66	9018	P	A	A
<b>67.</b>	67	9744	P	A	A
<b>68.</b>	68	9929	P	A	A
<b>69.</b>	69	10180	P	A	A
<b>70.</b>	70	10217	P	A	A
<b>71.</b>	71	10300	P	A	A
<b>72.</b>	72	10384	P	A	A
<b>73.</b>	73	10756	P	A	A
<b>74.</b>	74	11408	P	A	A
<b>75.</b>	75	11367	A	A	P
<b>76.</b>	76	11528	P	A	A
<b>77.</b>	77	11955	P	A	A
<b>78.</b>	78	12265	P	A	A
<b>79.</b>	79	12615	A	A	P
<b>80.</b>	80	12868	P	A	A
<b>81.</b>	81	13158	P	A	A
<b>82.</b>	82	13523	P	A	A
<b>83.</b>	83	14210	P	A	A
<b>84.</b>	84	14380	P	A	A
<b>85.</b>	85	14274	P	A	A
<b>86.</b>	86	14534	P	A	A

<b>87.</b>	87	15062	P	A	A
<b>88.</b>	88	16084	P	A	A
<b>89.</b>	89	16850	P	A	A
<b>90.</b>	90	17087	P	A	A
<b>91.</b>	91	17221	P	A	A
<b>92.</b>	92	17808	P	A	A
<b>93.</b>	93	18084	P	A	A
<b>94.</b>	94	18168	P	A	A
<b>95.</b>	95	18529	A	A	P
<b>96.</b>	96	18897	P	A	A
<b>97.</b>	97	19288	P	A	A
<b>98.</b>	98	19304	P	A	A
<b>99.</b>	99	19636	A	A	P
<b>100.</b>	100	19689	P	A	A
<b>101.</b>	101	20144	P	A	A
<b>102.</b>	102	20222	P	A	A
<b>103.</b>	103	20385	P	A	A
<b>104.</b>	104	21230	P	A	A
<b>105.</b>	105	21556	P	A	A
<b>106.</b>	106	20916	P	A	A
<b>107.</b>	107	20996	P	A	A
<b>108.</b>	108	21200	P	A	A
<b>109.</b>	109	21514	P	A	A
<b>110.</b>	110	21728	P	A	A
<b>111.</b>	111	21730	P	A	A
<b>112.</b>	112	21753	P	A	A
<b>113.</b>	113	21937	P	A	A
<b>114.</b>	114	21962	P	A	A
<b>115.</b>	115	22201	A	A	P
<b>116.</b>	116	22396	P	A	A

<b>117.</b>	117	22415	P	A	A
<b>118.</b>	118	22690	P	A	A
<b>119.</b>	119	22742	A	A	P
<b>120.</b>	120	23191	P	A	A
<b>121.</b>	121	23320	P	A	A
<b>122.</b>	122	23421	P	A	A
<b>123.</b>	123	23537	P	A	A
<b>124.</b>	124	23741	P	A	A
<b>125.</b>	125	23787	P	A	A
<b>126.</b>	126	24000	P	A	A
<b>127.</b>	127	24148	P	A	A
<b>128.</b>	128	24210	P	A	A
<b>129.</b>	129	24602	P	A	A
<b>130.</b>	130	24882	P	A	A
<b>131.</b>	131	24900	P	A	A
<b>132.</b>	132	24998	P	A	A
<b>133.</b>	133	25000	P	A	A
<b>134.</b>	134	25421	P	A	A
<b>135.</b>	135	25645	A	A	P
<b>136.</b>	136	25690	P	A	A
<b>137.</b>	137	25969	P	A	A
<b>138.</b>	138	25999	P	A	A
<b>139.</b>	139	25321	A	A	P
<b>140.</b>	140	26495	P	A	A
<b>141.</b>	141	26527	P	A	A
<b>142.</b>	142	26972	P	A	A
<b>143.</b>	143	27332	P	A	A
<b>144.</b>	144	27501	P	A	A
<b>145.</b>	145	27633	P	A	A
<b>146.</b>	146	26872	P	A	A

<b>147.</b>	147	27429	P	A	A
<b>148.</b>	148	27561	P	A	A
<b>149.</b>	149	28162	P	A	A
<b>150.</b>	150	28210	P	A	A
<b>151.</b>	151	28521	P	A	A
<b>152.</b>	152	28793	P	A	A
<b>153.</b>	153	28830	P	A	A
<b>154.</b>	154	29247	P	A	A
<b>155.</b>	155	29384	A	A	P
<b>156.</b>	156	29452	P	A	A
<b>157.</b>	157	29510	P	A	A
<b>158.</b>	158	29721	P	A	A
<b>159.</b>	159	29864	A	A	P
<b>160.</b>	160	29910	P	A	A
<b>161.</b>	161	30049	P	A	A
<b>162.</b>	162	30173	P	A	A
<b>163.</b>	163	30241	P	A	A
<b>164.</b>	164	30366	P	A	A
<b>165.</b>	165	30411	P	A	A
<b>166.</b>	166	30501	P	A	A
<b>167.</b>	167	30621	P	A	A
<b>168.</b>	168	31010	P	A	A
<b>169.</b>	169	31172	P	A	A
<b>170.</b>	170	31620	P	A	A
<b>171.</b>	171	32721	P	A	A
<b>172.</b>	172	33105	P	A	A
<b>173.</b>	173	33691	P	A	A
<b>174.</b>	174	34232	P	A	A
<b>175.</b>	175	34509	A	A	P
<b>176.</b>	176	34962	P	A	A

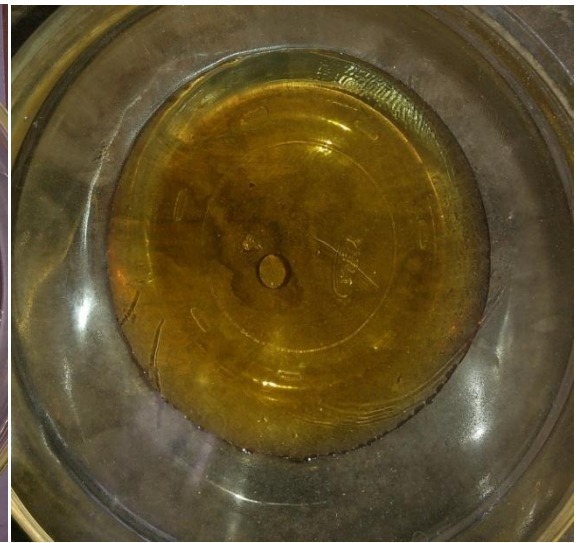
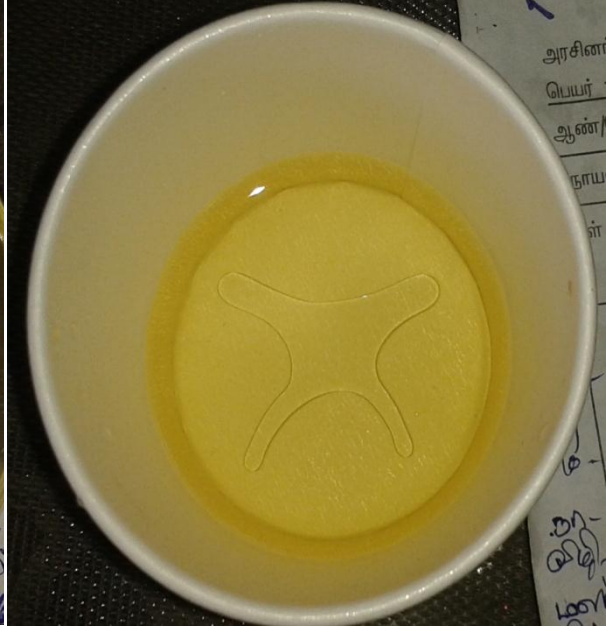
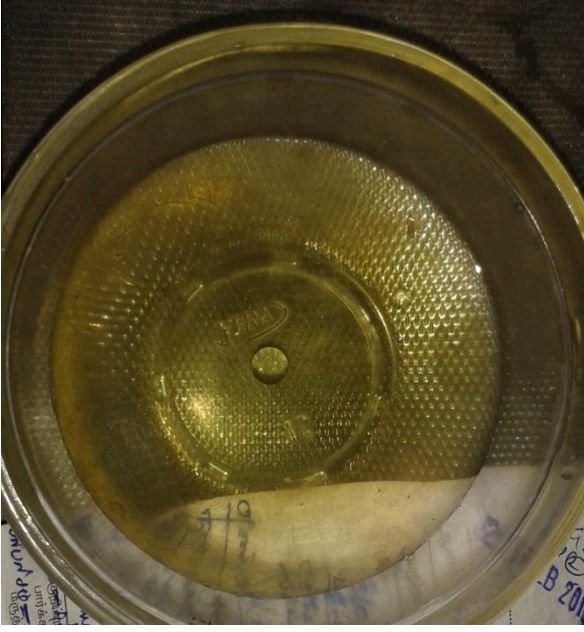
177.	177	35002	P	A	A
178.	178	35179	P	A	A
179.	179	35301	A	A	P
180.	180	35597	P	A	A
181.	181	35719	P	A	A
182.	182	35962	P	A	A
183.	183	36610	P	A	A
184.	184	37201	P	A	A
185.	185	37724	P	A	A
186.	186	38072	P	A	A
187.	187	38288	P	A	A
188.	188	38452	P	A	A
189.	189	38920	P	A	A
190.	190	39100	P	A	A
191.	191	39292	P	A	A
192.	192	39427	P	A	A
193.	193	39546	P	A	A
194.	194	39767	P	A	A
195.	195	40450	A	A	P
196.	196	40695	P	A	A
197.	197	41293	P	A	A
198.	198	41573	P	A	A
199.	199	41921	A	A	P
200.	200	42206	P	A	A
<b>Total</b>			Present 180 Absent 20	Present 0 Absent 200	Present 20 Absent 180
<b>Pesentage</b>			Present 90 Absent 10	Present 0 Absent 100	Present 10 Absent 90

P – Present, A – Absent,

**Out of 20 cases 90% have showed Rounded pattern (Kapha neer) "Neikuri"**

**Out of 20 cases 10% have rounded slow spread 0% cases rounded fast spread.**

## நெய்க்குறி



**TABLE – 25**  
**MANIKADAI & PANCHAPATCHI**

S.No	Reg. No	IP/OP No	Age/ Sex	Mani Kadai	DATE	TIME (AM)	PATCHI		BOOTHAM		UYIR THATHU	AATHARAM
							SAAVU	THUIL				
1.	1	56293	32/M	13 1/2	13/06/2015	08.55	Hen	Vulture	Air	Sand	Vatham	Visutthi
2.	2	56858	53/F	11	15/06/2015	11.05	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
3.	3	58864	42/M	11 1/2	22/06/2015	10.25	Peacock	Hen	Ether	Water	Vatham	Aakkinai
4.	4	60036	29/F	11	25/06/2015	09.32	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
5.	5	61303	43/F	11	30/06/2015	08.15	Peacock	Hen	Ether	Water	Vatham	Aakkinai
6.	6	61543	42/F	11	01/07/2015	07.30	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
7.	7	66475	64/M	11	20/07/2015	09.46	Peacock	Hen	Ether	Water	Vatham	Aakkinai
8.	8	67600	52/F	13	23/07/2015	08.56	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
9.	9	67895	63/M	12	24/07/2015	11.20	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
10.	10	69513	44/F	11	30/07/2015	09.25	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
11.	11	71438	67/F	12	07/08/2015	08.45	Peacock	Owl	Ether	Water	Vatham	Aakkinai
12.	12	72905	59/F	10 3/4	12/08/2015	07.56	Peacock	Owl	Ether	Water	Vatham	Aakkinai
13.	13	72901	34/F	11	12/08/2015	11.12	Hen	Vulture	Air	Sand	Vatham	Visutthi
14.	14	74408	58/F	11	18/08/2015	08.25	Hen	Crow	Water	Sand	Kapham	Manipuragam



<b>15.</b>	15	74406	65/M	10 3/4	18/08/2015	07.45	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>16.</b>	16	74407	47/F	10 3/4	18/08/2015	10.43	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>17.</b>	17	105004	32/F	13	04/12/2015	12.00	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>18.</b>	18	106313	37/F	10 3/4	09/12/2015	09.15	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>19.</b>	19	106359	39/M	11	09/12/2015	07.48	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>20.</b>	20	106557	55/F	12	10/12/2015	11.19	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>21.</b>	21	106603	32/F	11 1/4	10/12/2015	10.05	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>22.</b>	22	106956	31/F	10 1/2	11/12/2015	11.40	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>23.</b>	23	107249	26/M	11 1/4	12/12/2015	11.15	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>24.</b>	24	107308	15/F	11	12/12/2015	11.00	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>25.</b>	25	107741	45/F	13	14/12/2015	08.00	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>26.</b>	26	107771	60/F	12	14/12/2015	11.55	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>27.</b>	27	108346	45/F	12	16/12/2015	10.30	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>28.</b>	28	108443	36/F	12 1/2	16/12/2015	11.00	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>29.</b>	29	110873	38/M	11	24/12/2015	09.35	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>30.</b>	30	110832	53/F	12	24/12/2015	11.20	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>31.</b>	31	111240	40/F	12	26/12/2015	10.30	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>32.</b>	32	111241	38/F	11	26/12/2015	10.30	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam

33.	33	112338	37/F	11	30/12/2015	10.45	Hen	Vulture	Air	Sand	Vatham	Visutthi
34.	34	112760	53/F	13	31/12/2015	11.40	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
35.	35	112629	39/F	11 3/4	31/12/2015	08.30	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
36.	36	3358	62/M	11 1/2	24/12/2015	09.18	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
37.	37	16	13/MC	11	01/01/2016	10.30	Owl	Hen	Water	Air	Kapham	Manipuragam
38.	38	23	61/F	12 1/2	01/01/2016	08.00	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
39.	39	226	63/M	12 1/2	02/01/2016	11.45	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
40.	40	599	12/FC	10 3/4	03/01/2016	08.00	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
41.	41	808	8/MC	10	04/01/2016	09.30	Hen	Vulture	Air	Sand	Vatham	Visutthi
42.	42	1325	58/M	12 1/4	05/01/2016	10.00	Peacock	Owl	Ether	Water	Vatham	Aakkinai
43.	43	2024	65/F	13	06/01/2016	11.00	Hen	Vulture	Air	Sand	Vatham	Visutthi
44.	44	2026	41/F	11 3/4	06/01/2016	11.20	Hen	Vulture	Air	Sand	Vatham	Visutthi
45.	45	2282	35/M	13	07/01/2016	09.07	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
46.	46	2968	54/M	12	08/01/2016	11.30	Owl	Hen	Water	Air	Kapham	Manipuragam
47.	47	3072	61/M	12	09/01/2016	10.25	Hen	Vulture	Air	Sand	Vatham	Visutthi
48.	48	3401	60/M	13	10/01/2016	11.50	Peacock	Owl	Ether	Water	Vatham	Aakkinai
49.	49	3687	44/F	13 1/4	11/01/2016	10.15	Peacock	Hen	Ether	Water	Vatham	Aakkinai
50.	50	3567	29/M	12	11/01/2016	11.34	Hen	Crow	Water	Sand	Kapham	Manipuragam

<b>51.</b>	51	4114	42/M	12	12/01/2016	10.20	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>52.</b>	52	4441	21/F	13	13/01/2016	10.45	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>53.</b>	53	4610	47/M	13	14/01/2016	09.15	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>54.</b>	54	4923	48/M	12	15/01/2016	07.50	Crow	Owl	Sand	Water	Vatham	Suvathitanam
<b>55.</b>	55	5221	60/M	10 1/2	16/01/2016	08.45	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>56.</b>	56	5531	10/MC	11	17/01/2016	08.55	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>57.</b>	57	5856	52/M	12	18/01/2016	07.55	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>58.</b>	58	6266	17/F	12	19/01/2016	09.45	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>59.</b>	59	6626	10/MC	12	20/01/2016	09.15	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>60.</b>	60	7256	63/F	11	21/01/2016	07.40	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>61.</b>	61	7746	12/FC	12	22/01/2016	10.35	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>62.</b>	62	7843	42/M	12	23/01/2016	10.50	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>63.</b>	63	8092	43/F	13	24/01/2016	09.55	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>64.</b>	64	8463	12/MC	13	25/01/2016	11.15	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>65.</b>	65	8530	47/M	11	26/01/2016	10.15	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>66.</b>	66	9018	61/F	13	27/01/2016	09.45	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>67.</b>	67	9744	48/F	13	28/01/2016	07.50	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>68.</b>	68	9929	12/FC	13	30/01/2016	10.30	Hen	Vulture	Air	Sand	Vatham	Visutthi

<b>69.</b>	69	10180	48/M	11	31/01/2016	07.55	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>70.</b>	70	10217	43/M	12	31/01/2016	10.15	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>71.</b>	71	10300	12/FC	12	01/02/2016	11.00	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>72.</b>	72	10384	57/F	13	01/02/2016	08.25	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>73.</b>	73	10756	12/MC	12	02/02/2016	08.50	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>74.</b>	74	11408	35/F	13	03/02/2016	11.20	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>75.</b>	75	11367	52/F	13	03/02/2016	11.05	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>76.</b>	76	11528	16/F	12	04/02/2016	11.50	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>77.</b>	77	11955	49/F	13	05/02/2016	09.10	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>78.</b>	78	12265	67/M	12	06/02/2016	09.00	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>79.</b>	79	12615	38/M	13 1/2	07/02/2016	09.22	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>80.</b>	80	12868	50/F	12	08/02/2016	11.20	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>81.</b>	81	13158	20/F	12	09/02/2016	11.15	Crow	Owl	Sand	Water	Vatham	Suvathitanam
<b>82.</b>	82	13523	10/MC	11 3/4	10/02/2016	07.40	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>83.</b>	83	14210	45/M	13	11/02/2016	08.00	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>84.</b>	84	14380	7/FC	10	12/02/2016	09.00	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>85.</b>	85	14274	11/MC	11	13/02/2016	08.20	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>86.</b>	86	14534	54/F	13	14/02/2016	12.00	Crow	Owl	Sand	Water	Kapham	Suvathitanam

<b>87.</b>	87	15062	43/M	12	15/02/2016	11.45	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>88.</b>	88	16084	43/M	13	17/02/2016	11.00	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>89.</b>	89	16850	36/F	11 3/4	19/02/2016	07.45	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>90.</b>	90	17087	56/F	12	20/02/2016	10.00	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>91.</b>	91	17221	45/F	13	21/02/2016	08.30	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>92.</b>	92	17808	37/M	12	22/02/2016	09.45	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>93.</b>	93	18084	36/F	12	23/02/2016	12.00	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>94.</b>	94	18168	54M	13	23/02/2016	11.30	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>95.</b>	95	18529	38/F	13	24/02/2016	10.15	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>96.</b>	96	18897	55/F	13	25/02/2016	09.30	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>97.</b>	97	19288	40/M	13	26/02/2016	11.00	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>98.</b>	98	19304	30/F	13	26/02/2016	11.50	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>99.</b>	99	19636	30/F	13	27/02/2016	11.30	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>100.</b>	100	19689	65/M	13	28/02/2016	10.50	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>101.</b>	101	20144	53/F	12	29/02/2016	11.45	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>102.</b>	102	20222	48/M	12	01/03/2016	10.34	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>103.</b>	103	20385	27/F	12	02/03/2016	11.20	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>104.</b>	104	21230	46/F	13	03/03/2016	10.55	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham

<b>105.</b>	105	21556	8/FC	12	03/03/2016	08.00	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>106.</b>	106	20916	8/MC	10	03/03/2016	09.48	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>107.</b>	107	20996	10/MC	11	03/03/2016	07.50	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>108.</b>	108	21200	6/FC	10 1/2	04/03/2016	10.52	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>109.</b>	109	21514	46/F	13	04/03/2016	08.45	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>110.</b>	110	21728	31/F	12	05/03/2016	10.20	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>111.</b>	111	21730	26/M	11	05/03/2016	07.35	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>112.</b>	112	21753	7/FC	10	05/03/2016	07.30	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>113.</b>	113	21937	56/M	12 1/2	06/03/2016	11.35	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>114.</b>	114	21962	37/F	13	06/03/2016	09.16	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>115.</b>	115	22201	8/FC	12	07/03/2016	08.25	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>116.</b>	116	22396	9/FC	11	08/03/2016	10.48	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>117.</b>	117	22415	48/M	13	08/03/2016	07.40	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>118.</b>	118	22690	8/MC	12 1/2	09/03/2016	11.52	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>119.</b>	119	22742	52/F	13	09/03/2016	09.31	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>120.</b>	120	23191	36/F	10 3/4	10/03/2016	08.28	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>121.</b>	121	23320	10/MC	11	10/03/2016	10.56	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>122.</b>	122	23421	18/F	11	11/03/2016	08.55	Owl	Hen	Water	Air	Kapham	Manipuragam

<b>123.</b>	123	23537	42/M	12	12/03/2016	11.05	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>124.</b>	124	23741	34/F	12	12/03/2016	10.25	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>125.</b>	125	23787	51/F	13	13/03/2016	09.32	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>126.</b>	126	24000	42/F	13	13/03/2016	08.15	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>127.</b>	127	24148	42/M	11	14/03/2016	07.30	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>128.</b>	128	24210	37/F	13	14/03/2016	09.46	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>129.</b>	129	24602	7/FC	13	15/03/2016	08.56	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>130.</b>	130	24882	22/F	13	16/03/2016	11.20	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>131.</b>	131	24900	11/MC	11	16/03/2016	09.25	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>132.</b>	132	24998	34/M	12	17/03/2016	08.45	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>133.</b>	133	25000	60/F	12	17/03/2016	07.56	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>134.</b>	134	25421	67/F	13	18/03/2016	11.12	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>135.</b>	135	25645	6/MC	12	19/03/2016	08.25	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>136.</b>	136	25690	48/M	13	19/03/2016	07.45	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>137.</b>	137	25969	7/MC	13	20/03/2016	10.43	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>138.</b>	138	25999	52/M	12	20/03/2016	12.00	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>139.</b>	139	25321	23/F	13	21/03/2016	09.15	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>140.</b>	140	26495	12/FC	12	22/03/2016	07.48	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam

<b>141.</b>	141	26527	45/M	13 1/2	22/03/2016	11.19	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>142.</b>	142	26972	67/F	12	23/03/2016	10.05	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>143.</b>	143	27332	20/F	12	24/03/2016	11.40	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>144.</b>	144	27501	40/F	11 3/4	24/03/2016	11.15	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>145.</b>	145	27633	33/F	13	25/03/2016	11.00	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>146.</b>	146	26872	40/M	10	26/03/2016	08.00	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>147.</b>	147	27429	68/M	11	26/03/2016	11.55	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>148.</b>	148	27561	49/F	13	26/03/2016	10.30	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>149.</b>	149	28162	69/M	12	27/03/2016	11.00	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>150.</b>	150	28210	7/MC	13	27/03/2016	08.30	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>151.</b>	151	28521	27/F	11 3/4	28/03/2016	09.45	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>152.</b>	152	28793	33/M	12	29/03/2016	12.00	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>153.</b>	153	28830	30/M	13 1/2	30/03/2016	11.30	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>154.</b>	154	29247	49/M	11	31/03/2016	10.15	Crow	Owl	Sand	Water	Vatham	Suvathitanam
<b>155.</b>	155	29384	55/F	11 1/2	01/04/2016	09.30	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>156.</b>	156	29452	67/F	11	02/04/2016	11.00	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>157.</b>	157	29510	11/FC	11	03/04/2016	11.50	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>158.</b>	158	29721	35/F	11	04/04/2016	11.30	Hen	Crow	Water	Sand	Kapham	Manipuragam



<b>159.</b>	159	29864	68/M	11	05/04/2016	10.50	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>160.</b>	160	29910	8/FC	13	06/04/2016	11.45	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>161.</b>	161	30049	28/M	12	07/04/2016	10.34	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>162.</b>	162	30173	40/F	11	08/04/2016	11.20	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>163.</b>	163	30241	62/F	12	09/04/2016	10.55	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>164.</b>	164	30366	40/F	10 3/4	10/04/2016	08.00	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>165.</b>	165	30411	9/FC	11	11/04/2016	09.48	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>166.</b>	166	30501	43/F	11	12/04/2016	07.50	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>167.</b>	167	30621	42/M	10 3/4	13/04/2016	10.52	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>168.</b>	168	31010	57/M	10 3/4	14/04/2016	08.45	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>169.</b>	169	31172	9/FC	13	15/04/2016	10.20	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>170.</b>	170	31620	5/MC	10 3/4	16/04/2016	07.35	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>171.</b>	171	32721	8/MC	11	17/04/2016	07.30	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>172.</b>	172	33105	48/F	12	18/04/2016	11.35	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>173.</b>	173	33691	22/F	11 1/4	19/04/2016	09.16	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>174.</b>	174	34232	57/M	10 1/2	20/04/2016	08.25	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>175.</b>	175	34509	18/M	11 1/4	21/04/2016	10.48	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>176.</b>	176	34962	10/FC	11	22/04/2016	07.40	Crow	Peacock	Fire	Ether	Pitham	Anaakatham

<b>177.</b>	177	35002	11/MC	13	23/04/2016	11.52	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>178.</b>	178	35179	69/F	12	24/04/2016	09.31	Hen	Vulture	Air	Sand	Vatham	Visutthi
<b>179.</b>	179	35301	26/F	12	25/04/2016	08.28	Crow	Peacock	Fire	Ether	Pitham	Anaakatham
<b>180.</b>	180	35597	50/M	12 1/2	26/04/2016	10.56	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>181.</b>	181	35719	16/F	11	27/04/2016	11.45	Crow	Owl	Sand	Water	Vatham	Suvathitanam
<b>182.</b>	182	35962	29/M	12	28/04/2016	10.34	Vulture	Peacock	Fire	Ether	Pitham	Anaakatham
<b>183.</b>	183	36610	52/F	12	29/04/2016	11.20	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>184.</b>	184	37201	15/F	11	30/04/2016	10.55	Owl	Vulture	Air	Fire	Vatham	Visutthi
<b>185.</b>	185	37724	40/F	11	01/05/2016	08.00	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>186.</b>	186	38072	42/F	13	02/05/2016	09.48	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>187.</b>	187	38288	33/M	11 3/4	03/05/2016	07.50	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>188.</b>	188	38452	60/M	11 1/2	04/05/2016	10.52	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>189.</b>	189	38920	40/F	11	05/05/2016	08.45	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>190.</b>	190	39100	21/F	12 1/2	06/05/2016	10.20	Crow	Owl	Sand	Water	Kapham	Suvathitanam
<b>191.</b>	191	39292	30/M	12 1/2	07/05/2016	07.35	Hen	Crow	Water	Sand	Kapham	Manipuragam
<b>192.</b>	192	39427	56/F	10 3/4	08/05/2016	07.30	Peacock	Hen	Ether	Water	Vatham	Aakkinai
<b>193.</b>	193	39546	22/F	10	09/05/2016	11.35	Peacock	Owl	Ether	Water	Vatham	Aakkinai
<b>194.</b>	194	39767	37/M	12 1/4	10/05/2016	09.16	Peacock	Owl	Ether	Water	Vatham	Aakkinai

<b>195.</b>	195	40450	50/F	13	11/05/2016	08.25	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>196.</b>	196	40695	19/F	11 3/4	12/05/2016	10.48	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>197.</b>	197	41293	22/M	13	13/05/2016	07.40	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>198.</b>	198	41573	31/M	12	14/05/2016	11.52	Owl	Hen	Water	Air	Kapham	Manipuragam
<b>199.</b>	199	41921	35/M	12	15/05/2016	09.31	Vulture	Crow	Sand	Fire	Vatham	Suvathitanam
<b>200.</b>	200	42206	50/M	13	16/05/2016	08.28	Peacock	Owl	Ether	Water	Vatham	Aakkinai

**Out of 200 cases 53% Vatham affected, 18% Pitham affected, 29% Kapham affected.**

**Out of 200 cases 21% Suvathitanam affected, 25% Manipuragam affected, 17% Anaakatham affected, 20% Visutthi affected, 17% Aakkinai affected.**

# CLINICAL MEASUREMENTS

TABLE – 26

## BODY MASS INDEX

SL. NO.	Reg. NO	OP./ IP NO.	Age	Sex	Height (cm)	Weight (kg)	BMI= $\frac{Wt}{Ht(m^2)}$	Result
1.	1	56293	32	M	180	140	43.21	Obese III
2.	2	56858	53	F	145	75	35.67	Obese II
3.	3	58864	42	M	172	110	37.18	Obese II
4.	4	60036	29	F	159	80	31.64	Obese I
5.	5	61303	43	F	154	81	34.15	Obese I
6.	6	61543	42	F	155	80	33.3	Obese I
7.	7	66475	64	M	171	105	35.91	Obese II
8.	8	67600	52	F	167	115	41.23	Obese III
9.	9	67895	63	M	155	95	39.54	Obese II
10.	10	69513	44	F	152	86	37.22	Obese II
11.	11	71438	67	F	151	108	47.37	Obese III
12.	12	72905	59	F	152	80	34.63	Obese I
13.	13	72901	34	F	162	91	34.67	Obese I
14.	14	74408	58	F	147	82	37.95	Obese II
15.	15	74406	65	M	151	85	37.28	Obese II
16.	16	74407	47	F	148	82	37.44	Obese II
17.	17	105004	32	F	170	107	37.02	Obese II
18.	18	106313	37	F	157	80	32.50	Obese I
19.	19	106359	39	M	175	95	31.02	Obese I
20.	20	106557	55	F	143	67	32.76	Obese I
21.	21	106603	32	F	161	86	33.18	Obese I
22.	22	106956	31	F	154	80	33.73	Obese I
23.	23	107249	26	M	173	94	31.41	Obese I

<b>24.</b>	24	107308	15	F	150	79	35.11	<b>Obese II</b>
<b>25.</b>	25	107741	45	F	147	76	35.17	<b>Obese II</b>
<b>26.</b>	26	107771	60	F	142	77	38.18	<b>Obese II</b>
<b>27.</b>	27	108346	45	F	164	105	39.04	<b>Obese II</b>
<b>28.</b>	28	108443	36	F	154	76	32.05	<b>Obese I</b>
<b>29.</b>	29	110873	38	M	170	104	35.98	<b>Obese II</b>
<b>30.</b>	30	110832	53	F	150	84	36.00	<b>Obese II</b>
<b>31.</b>	31	111240	40	F	158	79	31.64	<b>Obese I</b>
<b>32.</b>	32	111241	38	F	160	80	31.25	<b>Obese I</b>
<b>33.</b>	33	112338	37	F	152	90	38.95	<b>Obese II</b>
<b>34.</b>	34	112760	53	F	148	82	37.43	<b>Obese II</b>
<b>35.</b>	35	112629	39	F	148	80	36.52	<b>Obese II</b>
<b>36.</b>	36	3358	62	M	162	105	40.00	<b>Obese III</b>
<b>37.</b>	37	16	13	MC	140	64	32.65	<b>Obese I</b>
<b>38.</b>	38	23	61	F	150	85	37.77	<b>Obese II</b>
<b>39.</b>	39	226	63	M	150	105	46.67	<b>Obese III</b>
<b>40.</b>	40	599	12	FC	145	60	28.54	<b>Overweight</b>
<b>41.</b>	41	808	8	MC	120	33	22.92	<b>Overweight</b>
<b>42.</b>	42	1325	58	M	158	95	38.05	<b>Obese II</b>
<b>43.</b>	43	2024	65	F	150	100	44.44	<b>Obese III</b>
<b>44.</b>	44	2026	41	F	150	85	37.38	<b>Obese II</b>
<b>45.</b>	45	2282	35	M	160	97	37.89	<b>Obese II</b>
<b>46.</b>	46	2968	54	M	161	100	38.57	<b>Obese II</b>
<b>47.</b>	47	3072	61	M	168	92	32.60	<b>Obese I</b>
<b>48.</b>	48	3401	60	F	155	102	42.46	<b>Obese III</b>
<b>49.</b>	49	3687	44	F	160	126	49.21	<b>Obese III</b>
<b>50.</b>	50	3567	29	M	170	94	32.53	<b>Obese I</b>

<b>51.</b>	51	4114	42	M	160	87	33.98	<b>Obese I</b>
<b>52.</b>	52	4441	21	F	152	82	35.49	<b>Obese II</b>
<b>53.</b>	53	4610	47	M	150	92	40.89	<b>Obese III</b>
<b>54.</b>	54	4923	48	M	160	103	40.23	<b>Obese III</b>
<b>55.</b>	55	5221	60	M	165	97	35.63	<b>Obese II</b>
<b>56.</b>	56	5531	10	MC	125	40	25.60	<b>Overweight</b>
<b>57.</b>	57	5856	52	M	172	102	34.48	<b>Obese I</b>
<b>58.</b>	58	6266	17	F	153	86	36.74	<b>Obese II</b>
<b>59.</b>	59	6626	10	MC	128	38	23.19	<b>Overweight</b>
<b>60.</b>	60	7256	63	F	150	95	42.22	<b>Obese III</b>
<b>61.</b>	61	7746	12	FC	152	62	26.84	<b>Overweight</b>
<b>62.</b>	62	7843	42	M	160	95	37.11	<b>Obese II</b>
<b>63.</b>	63	8092	43	F	160	105	41.02	<b>Obese III</b>
<b>64.</b>	64	8463	12	MC	150	59	26.22	<b>Overweight</b>
<b>65.</b>	65	8530	47	M	178	47	34.72	<b>Obese I</b>
<b>66.</b>	66	9018	61	F	174	103	34.02	<b>Obese I</b>
<b>67.</b>	67	9744	48	F	162	81	30.86	<b>Obese I</b>
<b>68.</b>	68	9929	12	FC	152	60	25.97	<b>Overweight</b>
<b>69.</b>	69	10180	48	M	168	92	32.60	<b>Obese I</b>
<b>70.</b>	70	10217	43	M	164	105	39.03	<b>Obese II</b>
<b>71.</b>	71	10300	12	FC	151	60	25.95	<b>Overweight</b>
<b>72.</b>	72	10384	57	F	165	99	36.36	<b>Obese II</b>
<b>73.</b>	73	10756	12	MC	130	45	26.63	<b>Overweight</b>
<b>74.</b>	74	11408	35	F	152	109	47.17	<b>Obese III</b>
<b>75.</b>	75	11367	52	F	145	65	30.91	<b>Obese I</b>
<b>76.</b>	76	11528	16	F	150	16	35.56	<b>Obese II</b>
<b>77.</b>	77	11955	49	F	159	100	39.56	<b>Obese II</b>

<b>78.</b>	78	12265	67	M	150	89	39.56	<b>Obese II</b>
<b>79.</b>	79	12615	38	M	170	115	39.79	<b>Obese II</b>
<b>80.</b>	80	12868	50	F	150	85	37.78	<b>Obese II</b>
<b>81.</b>	81	13158	20	F	155	90	37.46	<b>Obese II</b>
<b>82.</b>	82	13523	10	MC	128	42	25.63	<b>Obese I</b>
<b>83.</b>	83	14210	45	M	172	98	33.13	<b>Obese I</b>
<b>84.</b>	84	14380	7	FC	120	35	24.31	<b>Obese I</b>
<b>85.</b>	85	14274	11	MC	130	45	26.63	<b>Obese I</b>
<b>86.</b>	86	14534	54	F	158	102	40.86	<b>Obese I</b>
<b>87.</b>	87	15062	43	M	172	105	35.49	<b>Obese II</b>
<b>88.</b>	88	16084	43	M	160	108	42.19	<b>Obese III</b>
<b>89.</b>	89	16850	36	F	167	110	39.44	<b>Obese II</b>
<b>90.</b>	90	17087	56	F	157	106	43.00	<b>Obese III</b>
<b>91.</b>	91	17221	45	F	148	92	42.00	<b>Obese III</b>
<b>92.</b>	92	17808	37	M	160	90	35.16	<b>Obese II</b>
<b>93.</b>	93	18084	36	F	154	100	42.17	<b>Obese III</b>
<b>94.</b>	94	18168	54	M	168	102	36.14	<b>Obese II</b>
<b>95.</b>	95	18529	38	F	163	97	36.51	<b>Obese II</b>
<b>96.</b>	96	18897	55	F	160	96	37.50	<b>Obese II</b>
<b>97.</b>	97	19288	40	M	178	105	33.14	<b>Obese I</b>
<b>98.</b>	98	19304	30	F	160	96	37.50	<b>Obese II</b>
<b>99.</b>	99	19636	30	F	155	109	45.37	<b>Obese III</b>
<b>100.</b>	100	19689	65	M	160	95	37.11	<b>Obese II</b>
<b>101.</b>	101	20144	53	F	151	74	32.45	<b>Obese I</b>
<b>102.</b>	102	20222	48	M	157	84	34.08	<b>Obese I</b>
<b>103.</b>	103	20385	27	F	150	97	43.11	<b>Obese III</b>
<b>104.</b>	104	21230	46	F	170	108	37.37	<b>Obese II</b>

<b>105.</b>	105	21556	8	FC	125	35	22.4	<b>Overweight</b>
<b>106.</b>	106	20916	8	MC	126	33	20.76	<b>Overweight</b>
<b>107.</b>	107	20996	10	MC	136	40	21.63	<b>Overweight</b>
<b>108.</b>	108	21200	6	FC	120	30	20.83	<b>Overweight</b>
<b>109.</b>	109	21514	46	F	155	95	39.54	<b>Obese II</b>
<b>110.</b>	110	21728	31	F	157	90	36.51	<b>Obese II</b>
<b>111.</b>	111	21730	26	M	165	106	38.93	<b>Obese II</b>
<b>112.</b>	112	21753	7	FC	128	30	18.31	<b>Overweight</b>
<b>113.</b>	113	21937	56	M	165	90	33.06	<b>Obese I</b>
<b>114.</b>	114	21962	37	F	150	85	37.78	<b>Obese II</b>
<b>115.</b>	115	22201	8	FC	125	35	22.4	<b>Overweight</b>
<b>116.</b>	116	22396	9	FC	126	33	20.76	<b>Overweight</b>
<b>117.</b>	117	22415	48	M	178	109	34.40	<b>Obese I</b>
<b>118.</b>	118	22690	8	MC	126	33	20.76	<b>Overweight</b>
<b>119.</b>	119	22742	52	F	158	98	39.26	<b>Obese II</b>
<b>120.</b>	120	23191	36	F	163	87	32.74	<b>Obese I</b>
<b>121.</b>	121	23320	10	MC	136	40	21.63	<b>Overweight</b>
<b>122.</b>	122	23421	18	F	153	74	31.61	<b>Obese I</b>
<b>123.</b>	123	23537	42	M	160	92	35.94	<b>Obese II</b>
<b>124.</b>	124	23741	34	F	150	72	32.00	<b>Obese I</b>
<b>125.</b>	125	23787	51	F	155	83	34.55	<b>Obese I</b>
<b>126.</b>	126	24000	42	F	152	79	34.19	<b>Obese I</b>
<b>127.</b>	127	24148	42	M	168	80	28.34	<b>Overweight</b>
<b>128.</b>	128	24210	37	F	154	73	30.78	<b>Obese I</b>
<b>129.</b>	129	24602	7	FC	126	30	18.9	<b>Overweight</b>
<b>130.</b>	130	24882	22	F	161	75	28.93	<b>Overweight</b>
<b>131.</b>	131	24900	11	MC	140	48	24.49	<b>Obese I</b>



<b>132.</b>	132	24998	34	M	172	96	32.45	<b>Obese I</b>
<b>133.</b>	133	25000	60	F	151	100	43.86	<b>Obese III</b>
<b>134.</b>	134	25421	67	F	160	82	32.03	<b>Obese I</b>
<b>135.</b>	135	25645	6	MC	120	30	20.83	<b>Overweight</b>
<b>136.</b>	136	25690	48	M	179	95	29.65	<b>Overweight</b>
<b>137.</b>	137	25969	7	MC	126	30	18.9	<b>Overweight</b>
<b>138.</b>	138	25999	52	M	160	85	33.2	<b>Obese I</b>
<b>139.</b>	139	25321	23	F	149	78	35.13	<b>Obese II</b>
<b>140.</b>	140	26495	12	FC	140	48	24.49	<b>Obese I</b>
<b>141.</b>	141	26527	45	M	180	110	33.95	<b>Obese I</b>
<b>142.</b>	142	26972	67	F	155	100	41.62	<b>Obese III</b>
<b>143.</b>	143	27332	20	F	159	79	31.25	<b>Obese I</b>
<b>144.</b>	144	27501	40	F	168	80	28.34	<b>Overweight</b>
<b>145.</b>	145	27633	33	F	155	86	35.8	<b>Obese II</b>
<b>146.</b>	146	26872	40	M	173	82	27.40	<b>Overweight</b>
<b>147.</b>	147	27429	68	M	177	102	32.56	<b>Obese I</b>
<b>148.</b>	148	27561	49	F	161	83	32.02	<b>Obese I</b>
<b>149.</b>	149	28162	69	M	167	96	34.42	<b>Obese I</b>
<b>150.</b>	150	28210	7	MC	135	45	24.69	<b>Obese I</b>
<b>151.</b>	151	28521	27	F	151	65	28.51	<b>Overweight</b>
<b>152.</b>	152	28793	33	M	162	98	37.34	<b>Obese II</b>
<b>153.</b>	153	28830	30	M	167	100	35.86	<b>Obese II</b>
<b>154.</b>	154	29247	49	M	174	101	33.36	<b>Obese I</b>
<b>155.</b>	155	29384	55	F	158	93	37.25	<b>Obese II</b>
<b>156.</b>	156	29452	67	F	140	65	33.16	<b>Obese I</b>
<b>157.</b>	157	29510	11	FC	140	48	24.49	<b>Obese I</b>
<b>158.</b>	158	29721	35	F	156	73	30.00	<b>Obese I</b>

<b>159.</b>	159	29864	68	M	166	89	32.3	<b>Obese I</b>
<b>160.</b>	160	29910	8	FC	135	45	24.69	<b>Obese I</b>
<b>161.</b>	161	30049	28	M	166	78	28.31	<b>Overweight</b>
<b>162.</b>	162	30173	40	F	154	69	29.09	<b>Overweight</b>
<b>163.</b>	163	30241	62	F	157	75	30.43	<b>Obese I</b>
<b>164.</b>	164	30366	40	F	145	66	31.39	<b>Obese I</b>
<b>165.</b>	165	30411	9	FC	126	30	18.9	<b>Overweight</b>
<b>166.</b>	166	30501	43	F	153	78	33.32	<b>Obese I</b>
<b>167.</b>	167	30621	42	M	163	83	31.24	<b>Obese I</b>
<b>168.</b>	168	31010	57	M	171	94	32.15	<b>Obese I</b>
<b>169.</b>	169	31172	9	FC	135	40	21.95	<b>Overweight</b>
<b>170.</b>	170	31620	5	MC	110	25	20.66	<b>Overweight</b>
<b>171.</b>	171	32721	8	MC	135	45	24.69	<b>Obese I</b>
<b>172.</b>	172	33105	48	F	160	110	42.97	<b>Obese III</b>
<b>173.</b>	173	33691	22	F	150	75	33.33	<b>Obese I</b>
<b>174.</b>	174	34232	57	M	168	89	31.53	<b>Obese I</b>
<b>175.</b>	175	34509	18	M	174	115	37.98	<b>Obese II</b>
<b>176.</b>	176	34962	10	FC	136	40	21.63	<b>Overweight</b>
<b>177.</b>	177	35002	11	MC	140	48	24.49	<b>Obese I</b>
<b>178.</b>	178	35179	69	F	153	81	34.60	<b>Obese I</b>
<b>179.</b>	179	35301	26	F	158	96	38.46	<b>Obese II</b>
<b>180.</b>	180	35597	50	M	163	98	36.89	<b>Obese II</b>
<b>181.</b>	181	35719	16	F	150	70	31.11	<b>Obese I</b>
<b>182.</b>	182	35962	29	M	182	120	36.23	<b>Obese II</b>
<b>183.</b>	183	36610	52	F	152	100	43.28	<b>Obese III</b>
<b>184.</b>	184	37201	15	F	140	56	28.57	<b>Overweight</b>
<b>185.</b>	185	37724	40	F	156	69	28.35	<b>Overweight</b>

<b>186.</b>	186	38072	42	F	152	78	33.76	<b>Obese I</b>
<b>187.</b>	187	38288	33	M	175	89	29.06	<b>Overweight</b>
<b>188.</b>	188	38452	60	M	168	98	34.72	<b>Obese I</b>
<b>189.</b>	189	38920	40	F	156	87	35.75	<b>Obese II</b>
<b>190.</b>	190	39100	21	F	152	69	29.86	<b>Overweight</b>
<b>191.</b>	191	39292	30	M	167	92	32.99	<b>Obese I</b>
<b>192.</b>	192	39427	56	F	149	95	42.79	<b>Obese III</b>
<b>193.</b>	193	39546	22	F	161	83	32.02	<b>Obese I</b>
<b>194.</b>	194	39767	37	M	168	96	34.01	<b>Obese I</b>
<b>195.</b>	195	40450	50	F	159	91	36.00	<b>Obese II</b>
<b>196.</b>	196	40695	19	F	152	87	37.66	<b>Obese II</b>
<b>197.</b>	197	41293	22	M	169	96	33.61	<b>Obese I</b>
<b>198.</b>	198	41573	31	M	172	85	28.73	<b>Overweight</b>
<b>199.</b>	199	41921	35	M	181	120	36.63	<b>Obese II</b>
<b>200.</b>	200	42206	50	M	162	100	38.10	<b>Obese II</b>

**Out of 200 cases: 19% Overweight,**

**37% Obesity Class I,**

**32% Obesity Class II,**

**12% Obesity Class III.**

**TABLE –27**  
**WAIST HIP RATIO**

<b>SL. NO.</b>	<b>Reg. NO</b>	<b>OP / IP No</b>	<b>Waist (cm)</b>	<b>Hip (cm)</b>	<b>WHR</b>	<b>Result</b>
<b>1.</b>	1	56293	114	134	0.85	<b>MDR</b>
<b>2.</b>	2	56858	100	125	0.80	<b>MDR</b>
<b>3.</b>	3	58864	105	116	0.91	<b>VHDR</b>
<b>4.</b>	4	60036	95	110	0.86	<b>VHDR</b>
<b>5.</b>	5	61303	93	100	0.93	<b>VHDR</b>
<b>6.</b>	6	61543	90	95	0.95	<b>VHDR</b>
<b>7.</b>	7	66475	104	124	0.84	<b>LDR</b>
<b>8.</b>	8	67600	113	134	0.84	<b>HDR</b>
<b>9.</b>	9	67895	100	112	0.89	<b>HDR</b>
<b>10.</b>	10	69513	111	125	0.89	<b>VHDR</b>
<b>11.</b>	11	71438	110	132	0.83	<b>MDR</b>
<b>12.</b>	12	72905	92	118	0.78	<b>MDR</b>
<b>13.</b>	13	72901	110	126	0.87	<b>VHDR</b>
<b>14.</b>	14	74408	95	110	0.86	<b>HDR</b>
<b>15.</b>	15	74406	100	126	0.79	<b>LDR</b>
<b>16.</b>	16	74407	110	120	0.92	<b>VHDR</b>
<b>17.</b>	17	105004	85	96	0.89	<b>VHDR</b>
<b>18.</b>	18	106313	100	123	0.81	<b>HDR</b>
<b>19.</b>	19	106359	90	110	37	<b>LDR</b>
<b>20.</b>	20	106557	87	104	0.84	<b>MDR</b>
<b>21.</b>	21	106603	99	118	0.84	<b>VHDR</b>
<b>22.</b>	22	106956	100	110	0.91	<b>VHDR</b>
<b>23.</b>	23	107249	102	112	0.91	<b>MDR</b>
<b>24.</b>	24	107308	107	103	1.04	<b>VHDR</b>

<b>25.</b>	25	107741	100	100	1.00	<b>VHDR</b>
<b>26.</b>	26	107771	125	105	1.19	<b>VHDR</b>
<b>27.</b>	27	108346	120	140	0.85	<b>VHDR</b>
<b>28.</b>	28	108443	99	102	0.97	<b>VHDR</b>
<b>29.</b>	29	110873	110	104	1.05	<b>VHDR</b>
<b>30.</b>	30	110832	110	105	1.04	<b>VHDR</b>
<b>31.</b>	31	111240	99	102	0.97	<b>VHDR</b>
<b>32.</b>	32	111241	107	103	1.03	<b>VHDR</b>
<b>33.</b>	33	112338	120	108	1.11	<b>VHDR</b>
<b>34.</b>	34	112760	116	100	1.16	<b>VHDR</b>
<b>35.</b>	35	112629	109	107	1.01	<b>VHDR</b>
<b>36.</b>	36	3358	110	108	1.01	<b>VHDR</b>
<b>37.</b>	37	16	100	96	1.04	<b>VHDR</b>
<b>38.</b>	38	23	125	120	1.04	<b>VHDR</b>
<b>39.</b>	39	226	107	105	1.02	<b>VHDR</b>
<b>40.</b>	40	599	80	85	0.94	<b>HDR</b>
<b>41.</b>	41	808	85	80	1.06	<b>VHDR</b>
<b>42.</b>	42	1325	98	100	1.02	<b>VHDR</b>
<b>43.</b>	43	2024	112	110	1.02	<b>VHDR</b>
<b>44.</b>	44	2026	122	110	1.11	<b>VHDR</b>
<b>45.</b>	45	2282	107	100	1.07	<b>VHDR</b>
<b>46.</b>	46	2968	116	102	1.13	<b>VHDR</b>
<b>47.</b>	47	3072	100	90	1.11	<b>VHDR</b>
<b>48.</b>	48	3401	110	100	1.10	<b>VHDR</b>
<b>49.</b>	49	3687	100	125	0.80	<b>HDR</b>
<b>50.</b>	50	3567	102	112	0.80	<b>LDR</b>
<b>51.</b>	51	4114	90	100	0.90	<b>MDR</b>

<b>52.</b>	52	4441	100	120	0.83	<b>HDR</b>
<b>53.</b>	53	4610	100	108	0.93	<b>HDR</b>
<b>54.</b>	54	4923	-	-	-	-
<b>55.</b>	55	5221	-	-	-	-
<b>56.</b>	56	5531	110	130	0.85	<b>LDR</b>
<b>57.</b>	57	5856	-	-	-	-
<b>58.</b>	58	6266	96	120	0.80	<b>LDR</b>
<b>59.</b>	59	6626	85	80	1.06	<b>VHDR</b>
<b>60.</b>	60	7256	-	-	-	-
<b>61.</b>	61	7746	128	110	1.16	<b>VHDR</b>
<b>62.</b>	62	7843	-	-	-	-
<b>63.</b>	63	8092	107	105	1.02	<b>VHDR</b>
<b>64.</b>	64	8463	126	119	1.06	<b>VHDR</b>
<b>65.</b>	65	8530	-	-	-	-
<b>66.</b>	66	9018	130	120	1.08	<b>VHDR</b>
<b>67.</b>	67	9744	130	122	1.07	<b>VHDR</b>
<b>68.</b>	68	9929	110	100	1.10	<b>VHDR</b>
<b>69.</b>	69	10180	-	-	-	-
<b>70.</b>	70	10217	110	100	1.10	<b>VHDR</b>
<b>71.</b>	71	10300	115	114	1.00	<b>VHDR</b>
<b>72.</b>	72	10384	118	110	1.07	<b>VHDR</b>
<b>73.</b>	73	10756	95	90	1.06	<b>VHDR</b>
<b>74.</b>	74	11408	115	110	1.04	<b>VHDR</b>
<b>75.</b>	75	11367	120	115	1.04	<b>VHDR</b>
<b>76.</b>	76	11528	100	95	1.05	<b>VHDR</b>
<b>77.</b>	77	11955	125	120	1.04	<b>VHDR</b>
<b>78.</b>	78	12265	110	100	1.10	<b>VHDR</b>

<b>79.</b>	79	12615	135	130	1.04	<b>VHDR</b>
<b>80.</b>	80	12868	117	110	1.06	<b>VHDR</b>
<b>81.</b>	81	13158	110	100	1.10	<b>VHDR</b>
<b>82.</b>	82	13523	-	-	-	-
<b>83.</b>	83	14210	110	112	0.98	<b>HDR</b>
<b>84.</b>	84	14380	85	85	1.00	<b>VHDR</b>
<b>85.</b>	85	14274	92	85	1.08	<b>VHDR</b>
<b>86.</b>	86	14534	128	123	1.04	<b>VHDR</b>
<b>87.</b>	87	15062	128	118	1.08	<b>VHDR</b>
<b>88.</b>	88	16084	112	110	1.02	<b>VHDR</b>
<b>89.</b>	89	16850	120	120	1.00	<b>VHDR</b>
<b>90.</b>	90	17087	132	130	1.02	<b>VHDR</b>
<b>91.</b>	91	17221	110	95	1.16	<b>VHDR</b>
<b>92.</b>	92	17808	110	107	1.03	<b>VHDR</b>
<b>93.</b>	93	18084	130	120	1.08	<b>VHDR</b>
<b>94.</b>	94	18168	111	109	1.02	<b>VHDR</b>
<b>95.</b>	95	18529	127	120	1.06	<b>VHDR</b>
<b>96.</b>	96	18897	100	120	0.83	<b>HDR</b>
<b>97.</b>	97	19288	128	130	0.98	<b>HDR</b>
<b>98.</b>	98	19304	100	110	0.98	<b>VHDR</b>
<b>99.</b>	99	19636	127	117	0.92	<b>VHDR</b>
<b>100.</b>	100	19689	115	117	0.98	<b>HDR</b>
<b>101.</b>	101	20144	85	110	0.77	<b>MDR</b>
<b>102.</b>	102	20222	100	100	1.00	<b>VHDR</b>
<b>103.</b>	103	20385	100	110	0.91	<b>VHDR</b>
<b>104.</b>	104	21230	135	130	1.04	<b>VHDR</b>
<b>105.</b>	105	21556	90	90	1.00	<b>VHDR</b>

<b>106.</b>	106	20916	-	-	-	-
<b>107.</b>	107	20996	-	-	-	-
<b>108.</b>	108	21200	-	-	-	-
<b>109.</b>	109	21514	115	110	1.05	<b>VHDR</b>
<b>110.</b>	110	21728	100	90	1.11	<b>VHDR</b>
<b>111.</b>	111	21730	126	120	1.05	<b>VHDR</b>
<b>112.</b>	112	21753	-	-	-	-
<b>113.</b>	113	21937	110	106	1.04	<b>VHDR</b>
<b>114.</b>	114	21962	110	100	1.10	<b>VHDR</b>
<b>115.</b>	115	22201	-	-	-	-
<b>116.</b>	116	22396	-	-	-	-
<b>117.</b>	117	22415	130	120	1.08	<b>VHDR</b>
<b>118.</b>	118	22690	-	-	-	-
<b>119.</b>	119	22742	120	130	0.92	<b>VHDR</b>
<b>120.</b>	120	23191	120	128	0.94	<b>VHDR</b>
<b>121.</b>	121	23320	-	-	-	-
<b>122.</b>	122	23421	95	100	0.95	<b>VHDR</b>
<b>123.</b>	123	23537	100	100	1.00	<b>VHDR</b>
<b>124.</b>	124	23741	95	100	0.95	<b>VHDR</b>
<b>125.</b>	125	23787	110	100	1.10	<b>VHDR</b>
<b>126.</b>	126	24000	85	100	0.85	<b>HDR</b>
<b>127.</b>	127	24148	110	135	0.81	<b>LDR</b>
<b>128.</b>	128	24210	100	130	0.77	<b>MDR</b>
<b>129.</b>	129	24602	-	-	-	-
<b>130.</b>	130	24882	100	124	0.81	<b>HDR</b>
<b>131.</b>	131	24900	-	-	-	-
<b>132.</b>	132	24998	125	136	0.92	<b>HDR</b>



<b>133.</b>	133	25000	95	128	0.74	<b>LDR</b>
<b>134.</b>	134	25421	90	110	0.82	<b>MDR</b>
<b>135.</b>	135	25645	-	-	-	-
<b>136.</b>	136	25690	110	90	0.82	<b>LDR</b>
<b>137.</b>	137	25969	-	-	-	-
<b>138.</b>	138	25999	110	135	0.81	<b>LDR</b>
<b>139.</b>	139	25321	85	110	0.77	<b>MDR</b>
<b>140.</b>	140	26495	-	-	-	-
<b>141.</b>	141	26527	134	140	0.96	<b>HDR</b>
<b>142.</b>	142	26972	100	120	0.83	<b>MDR</b>
<b>143.</b>	143	27332	90	100	0.90	<b>VHDR</b>
<b>144.</b>	144	27501	95	110	0.86	<b>HDR</b>
<b>145.</b>	145	27633	110	127	0.87	<b>VHDR</b>
<b>146.</b>	146	26872	116	136	0.85	<b>LDR</b>
<b>147.</b>	147	27429	103	115	0.90	<b>LDR</b>
<b>148.</b>	148	27561	99	110	0.90	<b>VHDR</b>
<b>149.</b>	149	28162	120	123	0.98	<b>MDR</b>
<b>150.</b>	150	28210	-	-	-	-
<b>151.</b>	151	28521	110	134	0.82	<b>HDR</b>
<b>152.</b>	152	28793	112	117	0.96	<b>HDR</b>
<b>153.</b>	153	28830	115	129	0.89	<b>MDR</b>
<b>154.</b>	154	29247	120	140	0.86	<b>LDR</b>
<b>155.</b>	155	29384	125	138	0.91	<b>VHDR</b>
<b>156.</b>	156	29452	100	119	0.84	<b>HDR</b>
<b>157.</b>	157	29510	-	-	-	-
<b>158.</b>	158	29721	110	125	0.88	<b>VHDR</b>
<b>159.</b>	159	29864	130	138	0.94	<b>MDR</b>

<b>160.</b>	160	29910	-	-	-	-
<b>161.</b>	161	30049	120	110	1.09	<b>VHDR</b>
<b>162.</b>	162	30173	100	120	0.83	<b>HDR</b>
<b>163.</b>	163	30241	120	120	1.00	<b>VHDR</b>
<b>164.</b>	164	30366	132	130	1.02	<b>VHDR</b>
<b>165.</b>	165	30411	-	-	-	-
<b>166.</b>	166	30501	110	107	1.03	<b>VHDR</b>
<b>167.</b>	167	30621	130	120	1.08	<b>VHDR</b>
<b>168.</b>	168	31010	111	109	1.02	<b>VHDR</b>
<b>169.</b>	169	31172	-	-	-	-
<b>170.</b>	170	31620	-	-	-	-
<b>171.</b>	171	32721	-	-	-	-
<b>172.</b>	172	33105	100	110	0.98	<b>VHDR</b>
<b>173.</b>	173	33691	127	117	0.92	<b>VHDR</b>
<b>174.</b>	174	34232	115	117	0.98	<b>HDR</b>
<b>175.</b>	175	34509	85	110	0.77	<b>MDR</b>
<b>176.</b>	176	34962	-	-	-	-
<b>177.</b>	177	35002	-	-	-	-
<b>178.</b>	178	35179	135	130	1.04	<b>VHDR</b>
<b>179.</b>	179	35301	95	100	0.95	<b>VHDR</b>
<b>180.</b>	180	35597	100	100	1.00	<b>VHDR</b>
<b>181.</b>	181	35719	95	100	0.95	<b>VHDR</b>
<b>182.</b>	182	35962	110	100	1.10	<b>VHDR</b>
<b>183.</b>	183	36610	85	100	0.85	<b>HDR</b>
<b>184.</b>	184	37201	110	135	0.81	<b>LDR</b>
<b>185.</b>	185	37724	100	130	0.77	<b>MDR</b>
<b>186.</b>	186	38072	134	140	0.96	<b>HDR</b>

<b>187.</b>	187	38288	100	120	0.83	<b>MDR</b>
<b>188.</b>	188	38452	90	100	0.90	<b>VHDR</b>
<b>189.</b>	189	38920	95	110	0.86	<b>HDR</b>
<b>190.</b>	190	39100	110	127	0.87	<b>VHDR</b>
<b>191.</b>	191	39292	116	136	0.85	<b>LDR</b>
<b>192.</b>	192	39427	103	115	0.90	<b>LDR</b>
<b>193.</b>	193	39546	99	110	0.90	<b>VHDR</b>
<b>194.</b>	194	39767	120	123	0.98	<b>MDR</b>
<b>195.</b>	195	40450	110	100	1.10	<b>VHDR</b>
<b>196.</b>	196	40695	100	125	0.80	<b>HDR</b>
<b>197.</b>	197	41293	102	112	0.80	<b>LDR</b>
<b>198.</b>	198	41573	90	100	0.90	<b>MDR</b>
<b>199.</b>	199	41921	100	120	0.83	<b>HDR</b>
<b>200.</b>	200	42206	100	108	0.93	<b>HDR</b>

Out of 200 cases:     **8.5% Low Disease Risk,**  
                              **10% Medium Disease Risk,**  
                              **13.5% High Disease Risk,**  
                              **53% Very High Disease Risk,**  
                              **15% were Children.**

TABLE – 28

## LABORATORY INVESTIGATION OF SELECTED CASES

S.NO.	Reg. No.	IP/OP No	Hb (gms% )	TC	ESR		Blood Sugar mg/dl		B.Urea	S.Creatinine
					1/2 hr	1 hr	Fasting	(PP)		
<b>1.</b>	1	56293	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.5
<b>2.</b>	2	56858	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	1.3
<b>3.</b>	3	58864	09.2	9600	9	18	<b>202</b>	<b>301</b>	21	0.9
<b>4.</b>	4	60036	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.8
<b>5.</b>	5	61303	11.3	10400	20	38	158	268	<b>57</b>	0.5
<b>6.</b>	6	61543	09.2	9870	6	12	132	220	25	1.0
<b>7.</b>	7	66475	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.5
<b>8.</b>	8	67600	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.2
<b>9.</b>	9	67895	10.8	6100	14	28	110	263	34	1.1
<b>10.</b>	10	69513	11.2	7600	14	30	141	278	26	0.8
<b>11.</b>	11	71438	11	10230	14	28	90	170	29	0.6
<b>12.</b>	12	72905	12	9100	12	22	<b>180</b>	<b>420</b>	27	1.3
<b>13.</b>	13	72901	10.2	8650	12	21	85	176	35	0.9
<b>14.</b>	14	74408	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.8
<b>15.</b>	15	74406	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.5
<b>16.</b>	16	74407	11.2	7500	20	40	90	180	39	1.0
<b>17.</b>	17	105004	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.5
<b>18.</b>	18	106313	08.3	8600	13	28	180	298	25	1.2
<b>19.</b>	19	106359	09.3	9900	20	42	148	280	<b>45</b>	1.1
<b>20.</b>	20	106557	09.3	6800	15	32	90	175	<b>56</b>	0.8
<b>21.</b>	21	106603	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.6
<b>22.</b>	22	106956	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	1.3

<b>23.</b>	23	107249	09.2	9600	9	18	202	301	21	0.9
<b>24.</b>	24	107308	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.8
<b>25.</b>	25	107741	11.3	10400	20	38	158	268	<b>57</b>	0.5
<b>26.</b>	26	107771	09.2	9870	6	12	132	220	25	1.0
<b>27.</b>	27	108346	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.5
<b>28.</b>	28	108443	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.2
<b>29.</b>	29	110873	10.8	6100	14	28	110	263	34	1.1
<b>30.</b>	30	110832	11.2	7600	14	30	141	278	26	0.8
<b>31.</b>	31	111240	11	10230	14	28	90	170	29	0.6
<b>32.</b>	32	111241	12	9100	12	22	<b>180</b>	<b>420</b>	27	1.3
<b>33.</b>	33	112338	10.2	8650	12	21	85	176	35	0.9
<b>34.</b>	34	112760	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.8
<b>35.</b>	35	112629	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.5
<b>36.</b>	36	3358	11.2	7500	20	40	90	180	39	1.0
<b>37.</b>	37	16	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.5
<b>38.</b>	38	23	08.3	8600	13	28	180	298	25	1.2
<b>39.</b>	39	226	09.3	9900	20	42	148	280	<b>45</b>	1.1
<b>40.</b>	40	599	09.3	6800	15	32	90	175	<b>56</b>	0.8
<b>41.</b>	41	808	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.6
<b>42.</b>	42	1325	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	1.3
<b>43.</b>	43	2024	09.2	9600	9	18	202	301	21	0.9
<b>44.</b>	44	2026	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.8
<b>45.</b>	45	2282	11.3	10400	20	38	158	268	<b>57</b>	0.5
<b>46.</b>	46	2968	09.2	9870	6	12	132	220	25	1.0
<b>47.</b>	47	3072	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.5
<b>48.</b>	48	3401	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.2
<b>49.</b>	49	3687	10.8	6100	14	28	110	263	34	1.1

<b>50.</b>	50	3567	11.2	7600	14	30	141	278	26	0.8
<b>51.</b>	51	4114	11	10230	14	28	90	170	29	0.6
<b>52.</b>	52	4441	12	9100	12	22	<b>180</b>	<b>420</b>	27	1.0
<b>53.</b>	53	4610	10.2	8650	12	21	85	176	35	1.3
<b>54.</b>	54	4923	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>55.</b>	55	5221	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>56.</b>	56	5531	11.2	7500	20	40	90	180	39	0.5
<b>57.</b>	57	5856	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0
<b>58.</b>	58	6266	08.3	8600	13	28	180	298	25	1.5
<b>59.</b>	59	6626	09.3	9900	20	42	148	280	<b>45</b>	1.2
<b>60.</b>	60	7256	09.3	6800	15	32	90	175	<b>56</b>	1.1
<b>61.</b>	61	7746	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>62.</b>	62	7843	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>63.</b>	63	8092	09.2	9600	9	18	202	301	21	1.3
<b>64.</b>	64	8463	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9
<b>65.</b>	65	8530	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>66.</b>	66	9018	09.2	9870	6	12	132	220	25	0.5
<b>67.</b>	67	9744	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>68.</b>	68	9929	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>69.</b>	69	10180	10.8	6100	14	28	110	263	34	1.2
<b>70.</b>	70	10217	11.2	7600	14	30	141	278	26	1.1
<b>71.</b>	71	10300	11	10230	14	28	90	170	29	0.8
<b>72.</b>	72	10384	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>73.</b>	73	10756	10.2	8650	12	21	85	176	35	1.3
<b>74.</b>	74	11408	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>75.</b>	75	11367	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>76.</b>	76	11528	11.2	7500	20	40	90	180	39	0.5

<b>77.</b>	77	11955	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0
<b>78.</b>	78	12265	08.3	8600	13	28	180	298	25	1.5
<b>79.</b>	79	12615	09.3	9900	20	42	148	280	45	1.2
<b>80.</b>	80	12868	09.3	6800	15	32	90	175	56	1.1
<b>81.</b>	81	13158	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>82.</b>	82	13523	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>83.</b>	83	14210	09.2	9600	9	18	202	301	21	1.3
<b>84.</b>	84	14380	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9
<b>85.</b>	85	14274	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>86.</b>	86	14534	09.2	9870	6	12	132	220	25	0.5
<b>87.</b>	87	15062	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>88.</b>	88	16084	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>89.</b>	89	16850	10.8	6100	14	28	110	263	34	1.2
<b>90.</b>	90	17087	11.2	7600	14	30	141	278	26	1.1
<b>91.</b>	91	17221	11	10230	14	28	90	170	29	0.8
<b>92.</b>	92	17808	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>93.</b>	93	18084	10.2	8650	12	21	85	176	35	1.3
<b>94.</b>	94	18168	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>95.</b>	95	18529	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>96.</b>	96	18897	11.2	7500	20	40	90	180	39	0.5
<b>97.</b>	97	19288	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0
<b>98.</b>	98	19304	08.3	8600	13	28	180	298	25	1.5
<b>99.</b>	99	19636	09.3	9900	20	42	148	280	<b>45</b>	1.2
<b>100.</b>	100	19689	09.3	6800	15	32	90	175	<b>56</b>	1.1
<b>101.</b>	101	20144	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>102.</b>	102	20222	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>103.</b>	103	20385	09.2	9600	9	18	202	301	21	1.3

<b>104.</b>	104	21230	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9
<b>105.</b>	105	21556	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>106.</b>	106	20916	09.2	9870	6	12	132	220	25	0.5
<b>107.</b>	107	20996	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>108.</b>	108	21200	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>109.</b>	109	21514	10.8	6100	14	28	110	263	34	1.2
<b>110.</b>	110	21728	11.2	7600	14	30	141	278	26	1.1
<b>111.</b>	111	21730	11	10230	14	28	90	170	29	0.8
<b>112.</b>	112	21753	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>113.</b>	113	21937	10.2	8650	12	21	85	176	35	1.3
<b>114.</b>	114	21962	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>115.</b>	115	22201	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>116.</b>	116	22396	11.2	7500	20	40	90	180	39	0.5
<b>117.</b>	117	22415	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0
<b>118.</b>	118	22690	08.3	8600	13	28	180	298	25	1.5
<b>119.</b>	119	22742	09.3	9900	20	42	148	280	<b>45</b>	1.2
<b>120.</b>	120	23191	09.3	6800	15	32	90	175	<b>56</b>	1.1
<b>121.</b>	121	23320	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>122.</b>	122	23421	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>123.</b>	123	23537	09.2	9600	9	18	202	301	21	1.3
<b>124.</b>	124	23741	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9
<b>125.</b>	125	23787	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>126.</b>	126	24000	09.2	9870	6	12	132	220	25	0.5
<b>127.</b>	127	24148	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>128.</b>	128	24210	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>129.</b>	129	24602	10.8	6100	14	28	110	263	34	1.2
<b>130.</b>	130	24882	11.2	7600	14	30	141	278	26	1.1



<b>131.</b>	131	24900	11	10230	14	28	90	170	29	0.8
<b>132.</b>	132	24998	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>133.</b>	133	25000	10.2	8650	12	21	85	176	35	1.3
<b>134.</b>	134	25421	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>135.</b>	135	25645	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>136.</b>	136	25690	11.2	7500	20	40	90	180	39	0.5
<b>137.</b>	137	25969	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0
<b>138.</b>	138	25999	08.3	8600	13	28	180	298	25	1.5
<b>139.</b>	139	25321	09.3	9900	20	42	148	280	<b>45</b>	1.2
<b>140.</b>	140	26495	09.3	6800	15	32	90	175	<b>56</b>	1.1
<b>141.</b>	141	26527	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>142.</b>	142	26972	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>143.</b>	143	27332	09.2	9600	9	18	202	301	21	1.3
<b>144.</b>	144	27501	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9
<b>145.</b>	145	27633	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>146.</b>	146	26872	09.2	9870	6	12	132	220	25	0.5
<b>147.</b>	147	27429	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>148.</b>	148	27561	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>149.</b>	149	28162	10.8	6100	14	28	110	263	34	1.2
<b>150.</b>	150	28210	11.2	7600	14	30	141	278	26	1.1
<b>151.</b>	151	28521	11	10230	14	28	90	170	29	0.8
<b>152.</b>	152	28793	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>153.</b>	153	28830	10.2	8650	12	21	85	176	35	1.3
<b>154.</b>	154	29247	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>155.</b>	155	29384	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>156.</b>	156	29452	11.2	7500	20	40	90	180	39	0.5
<b>157.</b>	157	29510	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0

<b>158.</b>	158	29721	08.3	8600	13	28	180	298	25	1.5
<b>159.</b>	159	29864	09.3	9900	20	42	148	280	<b>45</b>	1.2
<b>160.</b>	160	29910	09.3	6800	15	32	90	175	<b>56</b>	1.1
<b>161.</b>	161	30049	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>162.</b>	162	30173	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>163.</b>	163	30241	09.2	9600	9	18	202	301	21	1.3
<b>164.</b>	164	30366	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9
<b>165.</b>	165	30411	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>166.</b>	166	30501	09.2	9870	6	12	132	220	25	0.5
<b>167.</b>	167	30621	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>168.</b>	168	31010	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>169.</b>	169	31172	10.8	6100	14	28	110	263	34	1.2
<b>170.</b>	170	31620	11.2	7600	14	30	141	278	26	1.1
<b>171.</b>	171	32721	11	10230	14	28	90	170	29	0.8
<b>172.</b>	172	33105	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>173.</b>	173	33691	10.2	8650	12	21	85	176	35	1.3
<b>174.</b>	174	34232	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.9
<b>175.</b>	175	34509	10	8100	15	32	<b>160</b>	<b>340</b>	36	0.8
<b>176.</b>	176	34962	11.2	7500	20	40	90	180	39	0.5
<b>177.</b>	177	35002	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.0
<b>178.</b>	178	35179	08.3	8600	13	28	180	298	25	1.5
<b>179.</b>	179	35301	09.3	9900	20	42	148	280	<b>45</b>	1.2
<b>180.</b>	180	35597	09.3	6800	15	32	90	175	<b>56</b>	1.1
<b>181.</b>	181	35719	10.4	7750	10	20	<b>190</b>	<b>280</b>	25	0.8
<b>182.</b>	182	35962	11.2	8700	6	12	<b>160</b>	<b>380</b>	36	0.6
<b>183.</b>	183	36610	09.2	9600	9	18	202	301	21	1.3
<b>184.</b>	184	37201	10.2	8500	18	35	<b>126</b>	<b>190</b>	<b>40</b>	0.9

<b>185.</b>	185	37724	11.3	10400	20	38	158	268	<b>57</b>	0.8
<b>186.</b>	186	38072	09.2	9870	6	12	132	220	25	0.5
<b>187.</b>	187	38288	12	6700	30	65	<b>160</b>	<b>340</b>	23	1.0
<b>188.</b>	188	38452	12	9350	15	32	<b>170</b>	<b>390</b>	31	1.5
<b>189.</b>	189	38920	10.8	6100	14	28	110	263	34	1.2
<b>190.</b>	190	39100	11.2	7600	14	30	141	278	26	1.1
<b>191.</b>	191	39292	11	10230	14	28	90	170	29	0.8
<b>192.</b>	192	39427	12	9100	12	22	<b>180</b>	<b>420</b>	27	0.6
<b>193.</b>	193	39546	10.2	8650	12	21	85	176	35	0.8
<b>194.</b>	194	39767	13.2	9960	19	38	<b>190</b>	<b>330</b>	31	0.5
<b>195.</b>	195	40450	10	8100	15	32	<b>160</b>	<b>340</b>	36	1.0
<b>196.</b>	196	40695	11.2	7500	20	40	90	180	39	1.5
<b>197.</b>	197	41293	12	7800	26	40	<b>156</b>	<b>360</b>	34	1.2
<b>198.</b>	198	41573	08.3	8600	13	28	180	298	25	1.1
<b>199.</b>	199	41921	09.3	9900	20	42	148	280	<b>45</b>	0.8
<b>200.</b>	200	42206	09.3	6800	15	32	90	175	<b>56</b>	0.6

**TABLE: 28**  
**LIPID PROFILE**

<b>SL. NO.</b>	<b>Reg. NO</b>	<b>OP. NO.</b>	<b>TC (mg/dl)</b>	<b>HDL (mg/dl)</b>	<b>LDL (mg/dl)</b>	<b>VLDL (mg/dl)</b>	<b>TRIGLY CERIDES (mg/dl)</b>
<b>1.</b>	1	56293	210	57	<b>105</b>	24	120
<b>2.</b>	2	56858	<b>270</b>	56	<b>107</b>	24	118
<b>3.</b>	3	58864	217	48	<b>138</b>	20	97
<b>4.</b>	4	60036	217	50	<b>141</b>	19	95
<b>5.</b>	5	61303	230	52	80	15	<b>188</b>
<b>6.</b>	6	61543	240	54	82	14	<b>185.2</b>
<b>7.</b>	7	66475	250	50	85	16	166
<b>8.</b>	8	67600	<b>270</b>	52	87	15	163
<b>9.</b>	9	67895	250	41	<b>183</b>	29	130
<b>10.</b>	10	69513	240	42	<b>186</b>	27	129
<b>11.</b>	11	71438	<b>260</b>	42	<b>140</b>	21	74
<b>12.</b>	12	72905	<b>270</b>	43	<b>141</b>	21	72
<b>13.</b>	13	72901	<b>260</b>	32	<b>109</b>	27	174
<b>14.</b>	14	74408	<b>280</b>	34	<b>109</b>	26	173
<b>15.</b>	15	74406	<b>260</b>	42	<b>106</b>	23	156
<b>16.</b>	16	74407	<b>270</b>	44	<b>107</b>	23	155
<b>17.</b>	17	105004	<b>280</b>	60	<b>140</b>	19	<b>180</b>
<b>18.</b>	18	106313	<b>260</b>	62	<b>141</b>	18	<b>190</b>
<b>19.</b>	19	106359	250	45	<b>182</b>	27	<b>195</b>
<b>20.</b>	20	106557	<b>260</b>	45	84	26	178

<b>21.</b>	21	106603	210	38	<b>183</b>	24	154
<b>22.</b>	22	106956	<b>270</b>	40	86	37	120
<b>23.</b>	23	107249	217	38	<b>120</b>	36	85
<b>24.</b>	24	107308	217	39	<b>121</b>	27	56
<b>25.</b>	25	107741	230	44	<b>115</b>	26	178.3
<b>26.</b>	26	107771	240	45	<b>116</b>	37	145
<b>27.</b>	27	108346	250	40	87	34	125
<b>28.</b>	28	108443	<b>270</b>	41	88	58	165
<b>29.</b>	29	110873	250	44	<b>125</b>	56	168
<b>30.</b>	30	110832	240	45	<b>127</b>	50	<b>190</b>
<b>31.</b>	31	111240	<b>260</b>	42	88	48	<b>187</b>
<b>32.</b>	32	111241	<b>270</b>	43	88.2	46	130
<b>33.</b>	33	112338	<b>260</b>	46	<b>110</b>	15	115
<b>34.</b>	34	112760	<b>280</b>	45	<b>134.4</b>	34	120
<b>35.</b>	35	112629	<b>260</b>	47	<b>117</b>	08	164
<b>36.</b>	36	3358	<b>270</b>	40	<b>120</b>	63.2	172
<b>37.</b>	37	16	<b>280</b>	39	46	30.6	<b>194</b>
<b>38.</b>	38	23	<b>260</b>	40	47.8	24.8	108
<b>39.</b>	39	226	250	42	<b>111</b>	18	164
<b>40.</b>	40	599	<b>260</b>	43	<b>114</b>	26	161
<b>41.</b>	41	808	210	38	<b>139</b>	24	120
<b>42.</b>	42	1325	<b>270</b>	40	<b>141</b>	24	118
<b>43.</b>	43	2024	217	37	<b>167</b>	20	97

<b>44.</b>	44	2026	217	37	<b>173</b>	19	95
<b>45.</b>	45	2282	230	40	<b>118</b>	15	<b>188</b>
<b>46.</b>	46	2968	240	41	<b>120</b>	14	<b>185.2</b>
<b>47.</b>	47	3072	250	38	<b>144</b>	16	166
<b>48.</b>	48	3401	<b>270</b>	38	<b>147</b>	15	163
<b>49.</b>	49	3687	250	43	<b>112</b>	29	130
<b>50.</b>	50	3567	240	43	<b>113</b>	27	129
<b>51.</b>	51	4114	<b>260</b>	45	78	21	74
<b>52.</b>	52	4441	<b>270</b>	45	80	21	72
<b>53.</b>	53	4610	<b>260</b>	52	<b>187</b>	27	174
<b>54.</b>	54	4923	<b>280</b>	57	<b>191</b>	26	173
<b>55.</b>	55	5221	<b>260</b>	44	<b>184</b>	23	156
<b>56.</b>	56	5531	<b>270</b>	46	<b>186</b>	23	155
<b>57.</b>	57	5856	<b>280</b>	45	<b>160</b>	19	<b>180</b>
<b>58.</b>	58	6266	<b>260</b>	46	<b>162</b>	18	<b>190</b>
<b>59.</b>	59	6626	250	40	<b>165</b>	27	<b>195</b>
<b>60.</b>	60	7256	<b>260</b>	42	<b>167</b>	26	178
<b>61.</b>	61	7746	210	50	<b>105</b>	24	154
<b>62.</b>	62	7843	<b>270</b>	45	<b>107</b>	37	120
<b>63.</b>	63	8092	217	41	<b>138</b>	36	85
<b>64.</b>	64	8463	217	48	<b>141</b>	27	56
<b>65.</b>	65	8530	230	47	80	26	178.3
<b>66.</b>	66	9018	240	43	82	37	145

<b>67.</b>	67	9744	250	52	85	34	125
<b>68.</b>	68	9929	<b>270</b>	51	87	58	165
<b>69.</b>	69	10180	250	56	<b>183</b>	56	168
<b>70.</b>	70	10217	240	54	<b>186</b>	50	<b>190</b>
<b>71.</b>	71	10300	<b>260</b>	35	<b>140</b>	48	<b>187</b>
<b>72.</b>	72	10384	<b>270</b>	36	<b>141</b>	46	130
<b>73.</b>	73	10756	<b>260</b>	37	<b>109</b>	15	115
<b>74.</b>	74	11408	<b>280</b>	52	<b>109</b>	34	120
<b>75.</b>	75	11367	<b>260</b>	58	<b>106</b>	08	164
<b>76.</b>	76	11528	<b>270</b>	51	<b>107</b>	63.2	172
<b>77.</b>	77	11955	<b>280</b>	49	<b>140</b>	30.6	<b>194</b>
<b>78.</b>	78	12265	<b>260</b>	48	<b>141</b>	24.8	108
<b>79.</b>	79	12615	250	51	<b>182</b>	18	164
<b>80.</b>	80	12868	<b>260</b>	50	84	26	161
<b>81.</b>	81	13158	210	57	<b>183</b>	24	120
<b>82.</b>	82	13523	<b>270</b>	56	86	24	118
<b>83.</b>	83	14210	217	48	<b>120</b>	20	97
<b>84.</b>	84	14380	217	50	<b>121</b>	19	95
<b>85.</b>	85	14274	230	52	<b>115</b>	15	<b>188</b>
<b>86.</b>	86	14534	240	54	<b>116</b>	14	<b>185.2</b>
<b>87.</b>	87	15062	250	50	87	16	166
<b>88.</b>	88	16084	<b>270</b>	52	88	15	163
<b>89.</b>	89	16850	250	41	<b>125</b>	29	130

<b>90.</b>	90	17087	240	42	<b>127</b>	27	129
<b>91.</b>	91	17221	<b>260</b>	42	88	21	74
<b>92.</b>	92	17808	<b>270</b>	43	88.2	21	72
<b>93.</b>	93	18084	<b>260</b>	32	<b>110</b>	27	174
<b>94.</b>	94	18168	<b>280</b>	34	<b>134.4</b>	26	173
<b>95.</b>	95	18529	<b>260</b>	42	<b>117</b>	23	156
<b>96.</b>	96	18897	<b>270</b>	44	<b>120</b>	23	155
<b>97.</b>	97	19288	<b>280</b>	<b>60</b>	46	19	<b>180</b>
<b>98.</b>	98	19304	<b>260</b>	<b>62</b>	47.8	18	<b>190</b>
<b>99.</b>	99	19636	250	45	<b>111</b>	27	<b>195</b>
<b>100.</b>	100	19689	<b>260</b>	45	<b>114</b>	26	178
<b>101.</b>	101	20144	210	38	<b>139</b>	24	154
<b>102.</b>	102	20222	<b>270</b>	40	<b>141</b>	37	120
<b>103.</b>	103	20385	217	38	<b>167</b>	36	85
<b>104.</b>	104	21230	217	39	<b>173</b>	27	56
<b>105.</b>	105	21556	230	44	<b>118</b>	26	178.3
<b>106.</b>	106	20916	240	45	<b>120</b>	37	145
<b>107.</b>	107	20996	250	40	<b>144</b>	34	125
<b>108.</b>	108	21200	<b>270</b>	41	<b>147</b>	58	165
<b>109.</b>	109	21514	250	44	<b>112</b>	56	168
<b>110.</b>	110	21728	240	45	<b>113</b>	50	<b>190</b>
<b>111.</b>	111	21730	<b>260</b>	42	78	48	<b>187</b>
<b>112.</b>	112	21753	<b>270</b>	43	80	46	130



<b>113.</b>	113	21937	<b>260</b>	46	<b>187</b>	15	115
<b>114.</b>	114	21962	<b>280</b>	45	<b>191</b>	34	120
<b>115.</b>	115	22201	<b>260</b>	47	<b>184</b>	08	164
<b>116.</b>	116	22396	<b>270</b>	40	<b>186</b>	63.2	172
<b>117.</b>	117	22415	<b>280</b>	39	<b>160</b>	30.6	<b>194</b>
<b>118.</b>	118	22690	<b>260</b>	40	<b>162</b>	24.8	108
<b>119.</b>	119	22742	250	42	<b>165</b>	18	164
<b>120.</b>	120	23191	<b>260</b>	43	<b>167</b>	26	161
<b>121.</b>	121	23320	210	38	<b>105</b>	24	120
<b>122.</b>	122	23421	<b>270</b>	40	<b>107</b>	24	118
<b>123.</b>	123	23537	217	37	<b>138</b>	20	97
<b>124.</b>	124	23741	217	37	<b>141</b>	19	95
<b>125.</b>	125	23787	230	40	80	15	<b>188</b>
<b>126.</b>	126	24000	240	41	82	14	<b>185.2</b>
<b>127.</b>	127	24148	250	38	85	16	166
<b>128.</b>	128	24210	<b>270</b>	38	87	15	163
<b>129.</b>	129	24602	250	43	<b>183</b>	29	130
<b>130.</b>	130	24882	240	43	<b>186</b>	27	129
<b>131.</b>	131	24900	<b>260</b>	45	<b>140</b>	21	74
<b>132.</b>	132	24998	<b>270</b>	45	<b>141</b>	21	72
<b>133.</b>	133	25000	<b>260</b>	52	<b>109</b>	27	174
<b>134.</b>	134	25421	<b>280</b>	57	<b>109</b>	26	173
<b>135.</b>	135	25645	<b>260</b>	44	<b>106</b>	23	156

<b>136.</b>	136	25690	<b>270</b>	46	<b>107</b>	23	155
<b>137.</b>	137	25969	<b>280</b>	45	<b>140</b>	19	<b>180</b>
<b>138.</b>	138	25999	<b>260</b>	46	<b>141</b>	18	<b>190</b>
<b>139.</b>	139	25321	250	40	<b>182</b>	27	<b>195</b>
<b>140.</b>	140	26495	<b>260</b>	42	84	26	178
<b>141.</b>	141	26527	210	50	<b>105</b>	24	154
<b>142.</b>	142	26972	<b>270</b>	45	<b>107</b>	37	120
<b>143.</b>	143	27332	217	41	<b>138</b>	36	85
<b>144.</b>	144	27501	217	48	<b>141</b>	27	56
<b>145.</b>	145	27633	230	47	80	26	178.3
<b>146.</b>	146	26872	240	43	82	37	145
<b>147.</b>	147	27429	250	52	85	34	125
<b>148.</b>	148	27561	<b>270</b>	51	87	58	165
<b>149.</b>	149	28162	250	56	<b>183</b>	56	168
<b>150.</b>	150	28210	240	54	<b>186</b>	50	<b>190</b>
<b>151.</b>	151	28521	<b>260</b>	35	<b>140</b>	48	<b>187</b>
<b>152.</b>	152	28793	<b>270</b>	36	<b>141</b>	46	130
<b>153.</b>	153	28830	<b>260</b>	37	<b>109</b>	15	115
<b>154.</b>	154	29247	<b>280</b>	52	<b>109</b>	34	120
<b>155.</b>	155	29384	<b>260</b>	58	<b>106</b>	08	164
<b>156.</b>	156	29452	<b>270</b>	51	<b>107</b>	63.2	172
<b>157.</b>	157	29510	<b>280</b>	49	<b>140</b>	30.6	<b>194</b>
<b>158.</b>	158	29721	<b>260</b>	48	<b>141</b>	24.8	108

<b>159.</b>	159	29864	250	51	<b>182</b>	18	164
<b>160.</b>	160	29910	<b>260</b>	50	84	26	161
<b>161.</b>	161	30049	210	38	183	24	120
<b>162.</b>	162	30173	<b>270</b>	40	86	24	118
<b>163.</b>	163	30241	217	37	<b>120</b>	20	97
<b>164.</b>	164	30366	217	37	<b>121</b>	19	95
<b>165.</b>	165	30411	230	40	<b>115</b>	15	<b>188</b>
<b>166.</b>	166	30501	240	41	<b>116</b>	14	<b>185.2</b>
<b>167.</b>	167	30621	250	38	87	16	166
<b>168.</b>	168	31010	<b>270</b>	38	88	15	163
<b>169.</b>	169	31172	250	43	<b>125</b>	29	130
<b>170.</b>	170	31620	240	43	<b>127</b>	27	129
<b>171.</b>	171	32721	<b>260</b>	45	88	21	74
<b>172.</b>	172	33105	<b>270</b>	45	88.2	21	72
<b>173.</b>	173	33691	<b>260</b>	52	<b>110</b>	27	174
<b>174.</b>	174	34232	<b>280</b>	57	<b>134.4</b>	26	173
<b>175.</b>	175	34509	<b>260</b>	44	<b>117</b>	23	156
<b>176.</b>	176	34962	<b>270</b>	46	<b>120</b>	23	155
<b>177.</b>	177	35002	<b>280</b>	45	46	19	<b>180</b>
<b>178.</b>	178	35179	<b>260</b>	46	47.8	18	<b>190</b>
<b>179.</b>	179	35301	250	40	<b>111</b>	27	<b>195</b>
<b>180.</b>	180	35597	<b>260</b>	42	<b>114</b>	26	178
<b>181.</b>	181	35719	210	50	<b>139</b>	24	154

<b>182.</b>	182	35962	<b>270</b>	45	<b>141</b>	37	120
<b>183.</b>	183	36610	217	41	<b>167</b>	36	85
<b>184.</b>	184	37201	217	48	<b>173</b>	27	56
<b>185.</b>	185	37724	230	47	<b>118</b>	26	178.3
<b>186.</b>	186	38072	240	43	<b>120</b>	37	145
<b>187.</b>	187	38288	250	52	<b>144</b>	34	125
<b>188.</b>	188	38452	<b>270</b>	51	<b>147</b>	58	165
<b>189.</b>	189	38920	250	56	<b>112</b>	56	168
<b>190.</b>	190	39100	240	54	<b>113</b>	50	<b>190</b>
<b>191.</b>	191	39292	<b>260</b>	35	78	48	<b>187</b>
<b>192.</b>	192	39427	<b>270</b>	36	80	46	130
<b>193.</b>	193	39546	<b>260</b>	37	<b>187</b>	15	115
<b>194.</b>	194	39767	<b>280</b>	52	<b>191</b>	34	120
<b>195.</b>	195	40450	<b>260</b>	58	<b>184</b>	08	164
<b>196.</b>	196	40695	<b>270</b>	51	<b>186</b>	63.2	172
<b>197.</b>	197	41293	<b>280</b>	49	<b>160</b>	30.6	<b>194</b>
<b>198.</b>	198	41573	<b>260</b>	48	<b>162</b>	24.8	108
<b>199.</b>	199	41921	250	51	<b>165</b>	18	164
<b>200.</b>	200	42206	<b>260</b>	50	<b>167</b>	26	161

TC- Total Cholesterol, HDL- HDL Cholesterol, LDL- LDL Cholesterol,  
VLDL - VLDL Cholesterol



# AARTHI SPECIALITY LAB

AN ISO 9001 ORGANISATION

SID No. : 01079009



Branch : TIRUNELVELI-VPI  
Patient : MOOSA  
Referrer : B.V.LAB

Patient No. : 0100187158



Age / Sex : 36 Y / Male  
Reg. Time : 13:09:18  
Report Date : 22/07/2015

## Test Report

Page 1 of 1

SPECIMEN	INVESTIGATION / METHOD	RESULT	UNITS	REFERENCE RANGE
<b>BIOCHEMISTRY</b>				
<b>LIPID PROFILE</b>				
SERUM	TOTAL CHOLESTEROL (Cholesterol Oxidase/Peroxidase)	230.0	mgs/dl	< 200 mgs/dl
SERUM	HDL CHOLESTEROL (Direct)	48.0	mgs/dl	35 - 55 mgs/dl
SERUM	LDL CHOLESTEROL	50.0	mgs/dl	Desirable level: < 130 mgs/dl Border line : 130 - 159 mgs/dl Elevated : > 160 mgs/dl
SERUM	VLDL CHOLESTEROL	132.0	mgs/dl	10 - 40 mgs/dl
SERUM	TRIGLYCERIDES (Lipase/Glycerol Dehydrogenase)	660.0	mgs/dl	< 170 mgs/dl
SERUM	CHO / HDL RATIO	4.8		Normal : < 3
SERUM	LDL/HDL RATIO	1.0		

End of the Report

*J. Chris Shiny*

Dr.J.CHRI SHINY, MBBS, DCP.,  
Pathologist

Ht - 167

Wt - 86.

BMI - 30.84.

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- PALAYAMKOTTAI: Lakshmi Complex, North High Ground Road, Ph: 0462-258 1353
- TUTICORIN: 40, Palai Road, Ph: 0461-232 7353, Mobile: 99401 10515
- MADURAI: 4, Dr. Thangaraj Salai, Madurai, Ph: 0452-2521353, Mobile: 99400 70504
- THANJAVUR: 22, Pudukottai Road, Ph: 04362-279914, 279917, Mobile: 87544 38504

- TENKASI: 242, Samba Street, Ph: 04633-223211, Mobile: 99401 60517
- KOVILPATTI: 14-D, Santhapettai Road, Ph: 04632-228626, Mobile: 99400 22448
- RAJAPALAYAM: 64, Kamaraj Nagar, 2nd Street, Ph: 04563-225101, Mobile: 99401 10504
- Aarthi Hospital: No.60, Santhai Pettai Road, Kovilpatti, Ph: 221346, Mobile: 94431 41811

Note: This imaging modality is having its limitations, Hence this report should be correlated with clinical features and other parameters



AN ISO 9001 ORGANISATION

SID No. : 01079637



Branch : TIRUNELVELI-VPI  
Patient : BALASUBRAMANIAN  
Referrer : B.V.LAB

Patient No. : 0100187786



Age / Sex : 72 Y / Male  
Reg. Time : 11:08:59  
Report Date : 26/07/2015

Test Report

Page 1 of 1

SPECIMEN	INVESTIGATION / METHOD	RESULT	UNITS	REFERENCE RANGE
<b>BIOCHEMISTRY</b>				
<b>LIPID PROFILE</b>				
SERUM	TOTAL CHOLESTEROL (Cholesterol Oxidase/Peroxidase)	135.0	mgs/dl	< 200 mgs/dl
SERUM	HDL CHOLESTEROL (Direct)	33.0	mgs/dl	35 - 55 mgs/dl
SERUM	LDL CHOLESTEROL	74.0	mgs/dl	Desirable level: < 130 mgs/dl Border line : 130 - 159 mgs/dl Elevated : > 160 mgs/dl
SERUM	VLDL CHOLESTEROL	28.0	mgs/dl	10 - 40 mgs/dl
SERUM	TRIGLYCERIDES (Lipase/Glycerol Dehydrogenase)	140.0	mgs/dl	< 170 mgs/dl
SERUM	CHO / HDL RATIO	4.1		Normal : < 3
SERUM	LDL/HDL RATIO	2.2		

End of the Report

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Pathologist

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Note: This imaging modality is having its limitations, Hence this report should be correlated with clinical features and other parameters

The Aarthi Health Care Group KILPAUK - VADAPALANI - ALWARPET - TONDIARPET - PERAMBUR

## DISCUSSION

The author has selected “ATHITHOOLA ROGAM” for the dissertation subject; because it is one of the top 10 selected risk diseases. The incidence of Diabetes mellitus, hypertension, angina pectoris, and myocardial infarction are higher among the obese individuals.

**The observed Results and other Entities that have been studied are discussed under the following heading**

### **1. Age and sex references:**

In this study totally 200 patients were put on, belongs to all age groups starting from above 5 years old.

### **2. Family History:**

As there are many genes coding for obesity, there is likely to be a positive incidence with positive family history.

### **3. Socio Economic status:**

All categories of people are affected, even though most of them belong to the middle class socio economic group.

### **4. Diet & personal habits:**

On observation the disease develops only to those who take excess food which increases the “Uyir thathukkal” - Kapha Kuttram with activities which causes the derangement of the above” **Uyirthathu**”.

### **5. Occupation:**

Females especially housewives are more prone for obesity, because of their sedentary life style.

### **6. Thenai:**

There is no direct relationship with the residential area. Whatever may be residing place, the food habit and lack of exercise will lead to the disease soon.

### **7. Paruvakalangal:**

There is no direct relationship with seasonal variation. Almost all the seasons shows varying number of cases.

### **8. Thegi Ilakkanam:**

Out of 200 cases were 10% of Vatha Thegi, 14% of Pitha Thegi, 76% of Kapha Thegi.

## **9. Interpretation of Siddha Parameters:**

### **Status of the Uyir Thathukal:**

In the ATHITHOOLA ROGAM Kapha Kuttram and Pitha Kuttram are primarily affected and later on the Vatha Kuttram joins the chain and presenting the disease.

### **Kapham - changes:**

From the etiology it is clear, that the Kapha Kuttram is affected primarily, the changes in Kapham are as follows.

- 60% cases had affected Avalambagam.
- 35% cases had increased Pothagam.
- 50% cases had increased Kilethagam.
- 40% cases Santhigam affected.

### **Pitham - changes:**

The Pitha Kuttram also deranged in equal importance with Kapha Kuttram.

- 100% of cases have increased Anar pitham and Ranjaga pitham. 40% cases affected Saathaga pitham, 40% of cases showed deranged Praasaga pitham.

### **Vatham - changes:**

Vatha Kuttram was affected following the Kapha and Pitha Kuttram.

- 40% cases had affected praanan
- 100% cases had affected Abaanan and Samaanan
- 100% cases had derangement in Viyaanan
- 100% cases had increased activity of Udhanan

### **Udal Thathukal – changes:**

In **Athithoola Rogam** the derangement of the above “Uyir Thathukal” was reflected in the nature of the four Udal Thathukal.

- 100% cases were affected with Saaram, Senneer, Oon and Kozhuppu Thathukal



### **Validation of Envagai Thervugal:**

#### **NAA:**

- 40% cases showed normal features tongue.
- 50% cases showed (maa padithal) coated tongue.
- 10% cases irregular patchy black tongue.

The maa padithal (coat) in tongue holds some diagnostic importance.

#### **Niram:**

Veluthu kaanal present have more significant diagnostic value in diagnosis of **Athithoola Rogam**.

40% of cases show Veluthu kaanal present.

#### **Mozhi:**

75% cases showed low pitched sound (Thazhantha oli).

25% cases showed medium pitched sound (Sama oli).

The low pitched sound due to affected “Udhanan Vayu” provides some diagnostic clue.

#### **Vizhi:**

10% cases showed yellowish discoloration of conjunctiva.

85% cases exhibited normal eyes.

40% cases experienced burning sensation in eyes.

35% cases showed increased lacrimation.

Hence the burning sensation in the eyes has more significant diagnostic value.

#### **Sparisam:**

**70%** cases felt decreased warmth over the skin give much support in the diagnosis

**Naadi:**

24% cases showed “Vatha Pitham”

9% cases showed “Vatha Kapham”

8% cases showed “Pitha Vatham”

10.5% cases showed “Pitha kabam”

**43% cases showed “Kapha Vatham”**

5.5% cases showed “Kapha Pitham”

Hence the Naadi holds a **significant** diagnostic value in the diagnosis of “**Athithoola Rogam**”

**Malam:**

Of 200 cases 50% cases developed loose stools as said in the Noi Naadal part-2 gives some support in diagnosis, but developing constipation in 45 % cases is also to be considered in diagnosis and prognosis.

**Neerkuri:**

55%cases have pale yellow urine,

45%cases have cloudy urine,

40%cases showed frothy urine

**Neikuri:**

90% of total cases showed rounded pattern and 10% cases showed rounded slow spread pattern.

Only 0% of cases have rounded fast spread pattern in the Neikuri.

- Here the “rounded pattern” represents the affected “kabam Kuttram”, the “slow spread” represents the affected “Pitha Kuttram” and the “fast spread” represents the affected “Vatha Kuttram”.
- Hence the “rounded slow spread” denotes the Kuttram “Pitha Kabam”
- Hence “rounded fast spread” denotes the Kuttram “Pitha Vatham”

Hence the Nei Kuri holds a diagnostic value in the diagnosis and prognosis of the disease “**ATHITHOOLA ROGAM**”.

**Manikadai nool:**

100% of cases have Manikadai measurement are 10 and above.

**Impul Iyakka Vithi (Pancha Patchi):**

Out of 200 cases 53% Vatham affected, 18% Pitham affected, 29% Kapham affected.

Out of 200 cases 21% Suvathitanam affected, 25% Manipuragam affected, 17% Anaakatham affected, 20% Visutthi affected, 17% Aakkinai affected.

**BMI:**

19% Overweight, 37% Obesity Class I, 32% Obesity Class II, 12% Obesity Class III.

**WHR:**

8.5% Low Disease Risk, 10% Medium Disease Risk, 13.5% High Disease Risk, 53% Very High Disease Risk and 15% were children.

**Athithoola rogam** is the disease primarily due to decreased vatham followed by increased Kapham and the increased Kapham causes the accumulation of the soft fatty tissue all over the body.

## SUMMARY

The author has selected the disease **Athithoola rogam** for the present study. The clinical features of the **Athithoola rogam** such as increase in **Oon and Kozhuppu** thaathu and mechanical disorder such as breathless and keel vayu correlates with the symptoms of obesity of modern medicine. Athithoola rogam is otherwise called as “Parunthoola noi”. It is one among the 4448 diseases described in Siddha texts. Details of clinical features and pathophysiology of this disease is discussed in many siddha literatures such as Pararasa sekaram, Jeeva Rakshamirtham and Anubava Vaithiya Deva Ragasiyam.

This dissertation work is taken with an idea of studying the disease in detail to find out Line of Treatment and Dietary Regimen.

For the study, 200 patients of both sexes were selected. The male – female ratio is 2:3. The maximum patients were found to be in the third and four decades of their life. People belonging to the middle class were the most affected group. Also the incidence is heavy among the sedentary workers and non vegetarians. All the cases studied belonged to the Marutha nilam. Most of the cases are Kapha Thegi.

All the patients invariably suffered from breathlessness on moderate activity, 30% of patients suffered from arthritis and 20% of patients were found anaemic and 10% were infertile.

Examination of uyir thathus revealed that praanan, abaanan, Viyaanan, Udhanan, Samaanan were affected in vatham in all cases; Anar pitham and Ranjaga pitham were affected in all cases in Pitham; and in Kapham Avalambagam is affected in all cases, Kilethagam and Santhigam is affected in some cases.

Examination of Manikadai all the patients were 10 and above.

Examination of Impul Iyakka Vithi (Pancha Patchi) in Uyir Thathukkal 53% Vatham affected, 18% Pitham affected, 29% Kapham affected. In Aathaaram 21% Suvathitanam affected, 25% Manipuragam affected, 17% Anaakatham affected, 20% Visutthi affected, 17% Aakkinai affected.

Routine blood and urine investigations and lipid profile was done in all cases.

## LINE OF TREATMENT

The general principles of treatment in treating ailments are,

1. Kaappu(prevention)
2. Neekam(treatment)
3. Niraivu (restoration of normal physical, mental and social wellbeing)

Siddha system has unequivocally stated that even during the time of conception, some defects creep in the fertilized embryo. Those defect from the basis for the manifestation of certain constitutional diseases later on during the existence of the individual.

உடன் பிறந்தே கொல்லும் வியாதி

- அகத்தியர் கன்ம காண்டம்

The diseases, for which no known cause is given, are designated as diseases of idiopathic origin or hereditary disorders. In Siddha system such diseases are described as karmanoikal.

### **Kaappu (Prevention)**

To prevent karma diseases, the Siddha science has advocated preventive measures to be taken into consideration even while arranging for material alliances, the objects of which is to get healthy progeny to build a robust and health nation. The rules for effecting healthy alliances have been elaborately described in the science of astrology. The object of those rules is to achieve unbreakable happy married life on the basis of physical, emotional, intellectual and social compatibilities.

Siddhars also have formulated moral and ethical codes reinforced by religious and philosophical teachings, to be practiced by each and every individual of the community, in the daily walk of life , at the social, economic and cultural levels in order to achieve, plenty, prosperity, peace and happiness for leading a converted life.

In Siddha maruththuvanga churukkam under the heading kalaozhukkam, measures and practices to be followed for maintaining the normal physiological functions of the constitution taking into consideration, the inevitable physical changes that occur in the soil water, atmosphere, plants, animals, human constitution etc, following the changing of orbit of sun in relation to earth have been elaborately dealt with.

### **Neekam (treatment)**

The siddha medical science has been developed on the fundamental basis of Panchabootham, three humours and 7 thathukkal. The three uyir thaathu which are responsible for organization, regularization and

integration of the bodily structures and their physiological and psychological functions, are always kept in a state of physiological equilibrium by word, thought, deed and food of the individual. The general etiological factors for constitutional discomfort is said to be the incompatible diet, mental and physical activities.

The body formed by seven Udalkattugal is activated and maintained in sound condition by three uyir thathukkal which gets deranged primarily by any incompatible diet, habits and activities. The vitiated uyir thathukkal in turn bring about derangement in the structure and functions of seven primary body tissues namely chyle, blood, muscle, adipose tissue, bone marrow, sukkilam or suronitham and thus give rise to manifestation of several groups of symptoms and signs which are described as ailments or diseases.

## **Niraivu**

Physical, psychological, social, and economic rehabilitation of the individual is known as niraivu.

### **Diet and life style modification:**

- Modern diet and life styles changes are the major causes for many diseases, now.
- Dietary habits have to be restricted and the foods, which induce Athithoola Rogam, have to be avoided.
- Life style has to be changed and should be as per ozhukkangal described in our siddha system of medicine.
- Further treatment procedures should be based on the strength of the patient and severity of the disease.
- Identifying the patients in the early stages and modifying the lifestyle as per our siddha system of medicine will prevent the occurrence of this dreadful life threatening condition.
- Siddha system of medicine advised to patient for the dietary management is depend upon the seasons.

### **Line of Treatment for Athithoola Rogam**

1. Kabam is increased in Athithoola Rogam.
2. Kabam is constituted by neer and prithvi boothams. So the foods/drugs which are mainly constituted by prithvi and neer boothams should and must be avoided to mitigate kabam.
3. The medicines with bitter, pungent, astringent tastes to be taken to reduce kabam.
4. Kozhuppu thaathu is increased in Athithoola Rogam.
5. Veppa veeriyam medicines to be taken.
6. Exercise and Yogasanam.

## DIETARY REGIMEN

DO'S	DONT'S
<ol style="list-style-type: none"> <li>1. To take 25 cal/kg per day (Moderate work)</li> <li>2. Protein 0.8 gm/kg per day</li> <li>3. Cholesterol &lt; 300 mg per day</li> <li>4. Dietary fibre 50 gm per day (at least)</li> <li>5. Common salt &lt; 5 gm. per day</li> <li>6. Total Fat &lt; 30% of calories</li> <li>7. Milk : Three cup double toned milk daily</li> <li>8. Whole Cereal: 90 gm daily.</li> <li>9. Vegetable : 250 gm daily</li> <li>10. Dal : 400 ml. daily</li> <li>11. Fruits : 200 gm. Daily</li> </ol>	<ol style="list-style-type: none"> <li>1. To avoid smoking.</li> <li>2. To avoid Fasting.</li> <li>3. To avoid sweets, honey, sugar, , cold drinks, fruit juice,</li> <li>4. To avoid fruits and vegetables e.g. Mango, Custard apple, Grapes, Sapodilla, Banana, Dates, Potato, Turnip &amp; Beetroot.</li> </ol>

**TABLE – 29 KAPHAM PACIFYING FOODS**

DIET	TAKE	AVOID
<b>Suvai (Taste)</b>	Kaippu, Thuvarppu, Kaarppu	Inippu, Pulippu, Uppu
<b>Veeriyam</b>	Veppam (Hot)	Kulirchchi (Cold)
<b>Nut &amp; Seeds</b>	Almonds (Soaked And Peeled), Charole Nuts, Chia Seeds, Flax Seeds, Popcorn (Without Salt Or Butter), Pumpkin Seeds, Sunflower Seeds	Brazil Nuts, Cashews, Coconut, Filberts, Macadamia Nuts, Peanuts, Pecans, Pine Nuts, Pistachios, Sesame Seeds, Walnuts
<b>Vegetables</b>	Pungent And Bitter Foods Such As: Asparagus, Beets, Broccoli, Brussels Sprouts, Cabbage, Carrots, Celery, Cauliflower, Eggplant, Garlic, Leafy Green Vegetables, Lettuce, Onions, Mushrooms, Okra, Peas, Potatoes, Radishes, Spinach,	Avocado, Cucumber, Olives, Parsnips, Pumpkin, Squash, Summer, Sweet Potatoes, Tomatoes (Raw), Zucchini

	Sprouts	
<b>Oils</b>	Almond Oil, Corn Oil, Flax Seed Oil, Ghee, Sunflower Oil	Avocado Oil, Apricot Oil, Coconut Oil, Olive Oil, Primrose Oil, Safflower Oil, Sesame Oil, Soy Oil, Walnut Oil
<b>Fruits</b>	Apples, Apricots, Berries, Cherries, Cranberries, Figs, Mangoes, Peaches, Pears, Prunes, Pomegranates Dried Fruits In General Are Good For Kapha. (Apricots, Figs, Prunes)	Avocados, Bananas, Coconut, Dates, Fresh Figs, Grapefruit, Grapes, Melons, Oranges, Papayas, Pineapples, Plums Avoid Sweet, Sour, Or Very Juicy Fruits, In General.
<b>Sweets</b>	Raw, Unheated Honey	Artificial Sweeteners, Barley Malt, Date Sugar, Fructose, Honey (Cooked, Heated Or Processed), Jaggary, Maple Syrup, Molasses, Rice Syrup, Sucanat, Turbinado, White Sugar
<b>Milk And Milk Products</b>	Warm Skim Milk, Cottage Cheese (Ideally From Skim Goat's Milk) Ghee, Goat's Cheese (Unsalted, Not Aged), Goat's Milk (Skim), Yogurt (Fresh And Diluted)	Butter, Cheese, Cow's Milk, Frozen Yogurt, Ice Cream, Sour Cream, Yogurt (Store Bought)
<b>Non Vegetarian Diets</b>	Chicken (White), Eggs, Fish (Fresh water), Rabbit, Shrimp, Turkey (White), Venison, (All In Small Amounts)	Beef, Buffalo, Chicken (Dark), Duck, Fish (Saltwater), Lamb, Pork, Salmon, Sardines, Seafood, Tuna Fish, Turkey (Dark)
<b>Grains</b>	Amaranth, Barley, Buckwheat, Cereal (Unsweetened, Cold, Dry), Corn, Couscous, Crackers, Durham Flour, Granola, Millet, Muesli, Oat Bran, Oats (Dry), Polenta, Rice (Basmati, Wild), Rice Cakes, Spelt, Sprouted Wheat Bread, Tapioca, Wheat Bran	Oats (Cooked), Pancakes, Pasta, Rice (Brown, White), Wheat, Yeasted Bread
<b>Spices</b>	All Are Good. Ginger Is Especially Good For Improving Digestion	Salt



## YOGASANAM FOR OBESITY

PATCHIMOTHASANAM



POORVOTTASANAM



VEERABHADRASANAM



PADAKASANAM



SHALABASANAM



HALASANAM

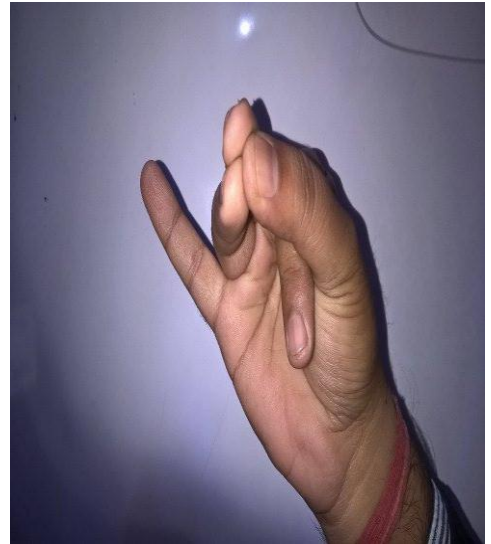


## MUTHIRAI FOR OBESITY

SURYA MUTHIRAI



VIYAANA MUTHIRAI



KAPHA-NASHA MUTHIRAI



LINGA MUTHIRAI



## **CONCLUSION**

The lines that were said by Anubava Vaithiya Deva Ragasiyam under **Athithoola Rogam**, explains the clinical condition as **Obesity**.

The lines of this version were well analyzed under siddha and modern parameters and the cases were thoroughly examined with clinical and biochemical report.

The Envagai Thervugal, Manikadai Nool, Thegi Ilakkanam, Impul Iyakka Vithi (Panchapatchi) and clinical measurements, helps much in diagnosing the disease.

‘FOOD’ is considered as the foremost basic need for the living and the intake of food has to be regularized for a healthy living. Regulation of diet and proper exercise will reduce the discomfort soon.

**“Your food shall be your remedies**

**Your remedies shall be your food”**

**- Hippocrates.**

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GOVT. SIDDHA MEDICAL COLLEGE AND HOSPITAL,  
PALAYAMKOTTAI.

DEPARTMENT OF PG NOI NAADAL

**A CLINICAL STUDY ON STANDARDIZATION OF SIDDHA  
DIAGNOSTIC METHODOLOGY, LINE OF TREATMENT AND  
DIETARY REGIMEN**

**FOR**

**“ATHITHOOLA ROGAM” (OBESITY)**

**FORM I**

**SCREENING AND SELECTION PROFORMA**

1. O.P.No \_\_\_\_\_ 2. I.P No \_\_\_\_\_ 3. Bed No: \_\_\_\_\_

4. S.No: \_\_\_\_\_

5. Name: \_\_\_\_\_

6. Age (years):

7. Gender: M ☐ F ☐

8. Occupation: \_\_\_\_\_

9. Income: \_\_\_\_\_

10. Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. Contact No: \_\_\_\_\_

12. E-mail: \_\_\_\_\_

13. Weight: \_\_\_\_\_ Height: \_\_\_\_\_ BMI: \_\_\_\_\_

**CRITERIA FOR INCLUSION****Yes (1)      No (0)**

1. Age between 5-70 years

☐☐2. WHR i.e., Waist Hip Circumference ratio  $>0.95$  in Males and  $> 0.8$  in Females☐☐3. Presence of obesity ( $\text{BMI} \geq 25$ )☐☐**CRITERIA FOR EXCLUSION****Yes (1)      No (0)**

4. Age below 5 and above 70 years

☐☐

5. Pregnancy and Lactation

☐☐

6. Malignancy

☐☐

7. Athletes or body builders having muscular hypertrophy

☐☐

8. Cardiac illness

☐☐

9. Person undergoing treatment for any other serious illness

☐☐

**GOVT.SIDDHA MEDICAL COLLEGE AND HOSPITAL,  
PALAYAM KOTTAI.  
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DIAGNOSTIC METHODOLOGY, LINE OF TREATMENT AND  
DIETARY REGIMEN**

**FOR**

**“ATHITHOOLA ROGAM” (OBESITY)**

**FORM I-A**

**HISTORY PROFORMA**

1. Sl. No of the case: \_\_\_\_\_
2. Reg. No of the case: \_\_\_\_\_
3. Name: \_\_\_\_\_
4. Address: \_\_\_\_\_
5. DOB: 

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 Age (years): \_\_\_\_\_  
D D M M Y E A R
6. Birth Time: \_\_\_\_\_
7. Star sign: \_\_\_\_\_ 8. Zodiac sign: \_\_\_\_\_
9. Moon:  
a) Crescent Moon ☐ b) Waning Moon ☐  
c) Full Moon ☐ d) New Moon ☐
10. Individual patchi: \_\_\_\_\_
11. First visit of a patchi:  
a) Time: \_\_\_\_\_ b) Date: \_\_\_\_\_ c) Day: \_\_\_\_\_
12. Weight: \_\_\_\_\_ Height: \_\_\_\_\_ BMI: \_\_\_\_\_



13. Educational Status:

Illiterate ☐ Read and Write ☐ Primary ☐  
Middle School ☐ High School ☐ College ☐

Others (Specify): \_\_\_\_\_

14. Occupation: \_\_\_\_\_ Income: \_\_\_\_\_

15. Nature of work:

- 1) Sedentary work ☐  
2) Field work with physical labour ☐  
3) Field work Executive ☐

**CHIEF COMPLAINT WITH DURATION (IF ANY) IN DAYS**

	<b>Absent (0)</b>	<b>Present (1)</b>
Polyphagia	<input type="checkbox"/>	<input type="checkbox"/>
Polydipsia	<input type="checkbox"/>	<input type="checkbox"/>
Excess sweating	<input type="checkbox"/>	<input type="checkbox"/>
Excess sleep	<input type="checkbox"/>	<input type="checkbox"/>
Body fatigue	<input type="checkbox"/>	<input type="checkbox"/>
Loss of libido	<input type="checkbox"/>	<input type="checkbox"/>
Palpitation/dyspnoea on exertion	<input type="checkbox"/>	<input type="checkbox"/>

**HISTORY OF PAST ILLNESS:**

	<b>Yes (1)</b>	<b>No (0)</b>
Systemic hypertension	<input type="checkbox"/>	<input type="checkbox"/>
Ischemic heart disease	<input type="checkbox"/>	<input type="checkbox"/>
Jaundice	<input type="checkbox"/>	<input type="checkbox"/>
Bronchial asthma	<input type="checkbox"/>	<input type="checkbox"/>

Any drug allergy	<input type="checkbox"/>	<input type="checkbox"/>
Any surgeries	<input type="checkbox"/>	<input type="checkbox"/>
Any major illnesses	<input type="checkbox"/>	<input type="checkbox"/>

### HABITS:

	Yes (1)	No (0)
Smoker	<input type="checkbox"/>	<input type="checkbox"/>
Alcoholic	<input type="checkbox"/>	<input type="checkbox"/>
Drug Addiction	<input type="checkbox"/>	<input type="checkbox"/>
Betel nut chewer:	<input type="checkbox"/>	<input type="checkbox"/>
Tea	<input type="checkbox"/>	<input type="checkbox"/>
Coffee	<input type="checkbox"/>	<input type="checkbox"/>
Milk	<input type="checkbox"/>	<input type="checkbox"/>
Emotional stress	<input type="checkbox"/>	<input type="checkbox"/>
Type of diet	Veg <input type="checkbox"/>	NonVeg <input type="checkbox"/>

Bowel habit	Reg <input type="checkbox"/>	Irreg <input type="checkbox"/>
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Sleep	Good <input type="checkbox"/>	Disturbed <input type="checkbox"/>	Insomnia <input type="checkbox"/>
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### PERSONAL HISTORY:

Marital status:	Married <input type="checkbox"/>	Unmarried <input type="checkbox"/>
-----------------	----------------------------------	------------------------------------

No. of children:	Male: _____	Female: _____
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### FAMILY HISTORY:

History of Athithoola rogam	Yes (1)	No (0)
Father	<input type="checkbox"/>	<input type="checkbox"/>
Mother	<input type="checkbox"/>	<input type="checkbox"/>
Others:	_____	

## MENSUTRAL AND OBSTERIC HISTORY:

Age at menarche \_\_\_\_\_ years

Gravidity ☐ Parity ☐

Duration of the menstrual cycle: \_\_\_\_\_

Constancy of cycle duration: 1. Regular ☐ 2. Irregular ☐

Years of menopause: \_\_\_\_\_

## RELATED AWARENESS HISTORY:

### Understanding About,

	Yes(1)	No(0)		Yes(1)	No(0)
Calorific Diet	<input type="checkbox"/>	<input type="checkbox"/>	Diabetes	<input type="checkbox"/>	<input type="checkbox"/>
Hyperlipidemia	<input type="checkbox"/>	<input type="checkbox"/>	Osteoarthritis	<input type="checkbox"/>	<input type="checkbox"/>
Obese	<input type="checkbox"/>	<input type="checkbox"/>	Hypertension	<input type="checkbox"/>	<input type="checkbox"/>
Exercise	<input type="checkbox"/>	<input type="checkbox"/>	Hypothyroidism	<input type="checkbox"/>	<input type="checkbox"/>
Depression	<input type="checkbox"/>	<input type="checkbox"/>	Coronary Heart Disease	<input type="checkbox"/>	<input type="checkbox"/>

## NUTRITIONAL HISTORY:

1. How many meals and snacks do you eat each day?

Meals \_\_\_\_\_ Snacks \_\_\_\_\_

2. How many times a week do you eat the following meals away from home?

Breakfast \_\_\_\_\_ Lunch \_\_\_\_\_ Dinner \_\_\_\_\_

2.1. What types of eating places do you frequently visit? (Check all that apply)

Fast-food \_\_\_\_\_ Restaurant \_\_\_\_\_ Other \_\_\_\_\_

3. On average, how many pieces of fruit or glasses of juice do you eat or drink each day? Fresh fruit \_\_\_\_\_ Juice \_\_\_\_\_
4. On average, how many servings of vegetables do you eat each day? \_\_\_\_\_
5. On average, how many times a week does you eat a high-fiber breakfast cereal? \_\_\_\_\_
6. How many times a week does you eat red meat (beef, lamb, veal) or pork? \_\_\_\_\_
7. How many times a week does you eat chicken? \_\_\_\_\_
8. How many times a week does you eat fish? \_\_\_\_\_
9. How many hours of television do you watch every day? \_\_\_\_\_
- 9.1. Do you usually snack while watching television? Yes ☐ No ☐
10. How many times a week does you eat desserts and sweets? \_\_\_\_\_
11. What types of beverages do you usually drink? How many servings of each do you drink a day?

Water \_\_\_\_\_

**Milk:**

**Alcohol:**

Juice \_\_\_\_\_

Whole milk \_\_\_\_\_

Beer \_\_\_\_\_

Soda \_\_\_\_\_

2% milk \_\_\_\_\_

Wine \_\_\_\_\_

Sports drinks \_\_\_\_\_

1% milk \_\_\_\_\_

hard liquor \_\_\_\_\_

Iced tea with sugar \_\_\_\_\_

Skim milk \_\_\_\_\_

**GOVT. SIDDHA MEDICAL COLLEGE AND HOSPITAL,  
PALAYAM KOTTAI.**

***A CLINICAL STUDY ON STANDARDIZATION OF SIDDHA  
DIAGNOSTIC METHODOLOGY, LINE OF TREATMENT AND***

***DIETARY REGIMEN FOR***

***“ATHITHOOLA ROGAM” (OBESITY)***

**FORM II**

**CLINICAL ASSESSMENT**

1. Serial No: \_\_\_\_\_ Reg.no: \_\_\_\_\_ Date: \_\_\_\_\_

2. Name: \_\_\_\_\_

3. Date of birth: 



















 4. Age: \_\_\_\_\_ years

D D      M M      Y E A R

**GENERAL EXAMINATION:**

1. Height: \_\_\_\_\_ cms.

2. Weight: \_\_\_\_\_ kg. BMI \_\_\_\_\_ (Weight Kg/ Height m<sup>2</sup>)

3. Skin fold thickness \_\_\_\_\_ Body fat (%) \_\_\_\_\_

4. Temperature: \_\_\_\_\_ °F.

5. Pulse rate: \_\_\_\_\_/min.

6. Heart rate: \_\_\_\_\_/min.

7. Respiratory rate: \_\_\_\_\_/ min.

8. Blood pressure: \_\_\_\_\_mmHg.

9. Manikkadai Nool: (Wrist circummetric Sign)

Rt.Wrist \_\_\_\_\_ Lt.Wrist \_\_\_\_\_

10. Pallor : Present ☐ Absent ☐ \_\_\_\_\_

11. Cyanosis : Present ☐ Absent ☐ \_\_\_\_\_
12. Clubbing : Present ☐ Absent ☐ \_\_\_\_\_
13. Pedal edema : Present ☐ Absent ☐ \_\_\_\_\_
14. Jugular vein pulsation : Present ☐ Absent ☐ \_\_\_\_\_
15. Lymph adenopathy : Present ☐ Absent ☐ \_\_\_\_\_

### VITAL ORGANS EXAMINATION

	Palpable	Not- Palpable
1. Stomach	<input type="checkbox"/>	<input type="checkbox"/> _____
2. Liver	<input type="checkbox"/>	<input type="checkbox"/> _____
3. Spleen	<input type="checkbox"/>	<input type="checkbox"/> _____
4. Kidney	<input type="checkbox"/>	<input type="checkbox"/> _____
	Normal	Affected
5. Heart	<input type="checkbox"/>	<input type="checkbox"/> _____
6. Lungs	<input type="checkbox"/>	<input type="checkbox"/> _____
7. Brain	<input type="checkbox"/>	<input type="checkbox"/> _____

### SYSTEMIC EXAMINATION:

1. Gastrointestinal System: \_\_\_\_\_
2. Respiratory System: \_\_\_\_\_
3. Cardio Vascular System: \_\_\_\_\_
4. Central Nervous System: \_\_\_\_\_
5. Genito urinary system: \_\_\_\_\_
6. Endocrine System: \_\_\_\_\_

# [1] ENNVAGAI THERVU [EIGHT-FOLD EXAMINATION]

## I. NAADI (KAI KURI) (RADIAL PULSE READING)

### (a) Naadi Nithanam (Pulse Appraisal)

#### 1. Kaalam (Pulse reading season)

- |                                            |                                              |
|--------------------------------------------|----------------------------------------------|
| 1. Kaarkaalam <input type="checkbox"/>     | 2. Koothirkaalam <input type="checkbox"/>    |
| (Rainy season)                             | (Autumn)                                     |
| 3. Munpanikaalam <input type="checkbox"/>  | 4. Pinpanikaalam <input type="checkbox"/>    |
| (Early winter)                             | (Late winter)                                |
| 5. Ilavenirkaalam <input type="checkbox"/> | 6. Muthuvenirkaalam <input type="checkbox"/> |
| (Early summer)                             | (Late summer)                                |

#### 2. Desam (Climate of the patient's habitat)

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| 1. Kulir <input type="checkbox"/> | 2. Veppam <input type="checkbox"/> |
| (Temperate)                       | (Hot)                              |

#### 3. Vayathu (Age)

- |                                     |                                      |                                       |
|-------------------------------------|--------------------------------------|---------------------------------------|
| 1. 1-33yrs <input type="checkbox"/> | 2. 34-66yrs <input type="checkbox"/> | 3. 67-100yrs <input type="checkbox"/> |
|-------------------------------------|--------------------------------------|---------------------------------------|

#### 4. Udal Vanmai (General body condition)

- |                                     |                                    |                                    |
|-------------------------------------|------------------------------------|------------------------------------|
| 1. Iyyalbu <input type="checkbox"/> | 2. Valivu <input type="checkbox"/> | 3. Melivu <input type="checkbox"/> |
|-------------------------------------|------------------------------------|------------------------------------|

#### 5. Naadiyin Vanmai (Expansile Nature)

- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1. Vanmai <input type="checkbox"/> | 2. Menmai <input type="checkbox"/> |
|------------------------------------|------------------------------------|

#### 6. Panbu (Habit)

- |                                         |                                       |                                        |
|-----------------------------------------|---------------------------------------|----------------------------------------|
| 1. Thannadai <input type="checkbox"/>   | 2. Munnokku <input type="checkbox"/>  | 3. Pinnokku <input type="checkbox"/>   |
| (Playing in)                            | (Advancing)                           | (Flinching)                            |
| 4. Pakkamnokku <input type="checkbox"/> | 5. Puranadai <input type="checkbox"/> | 6. Illaitthal <input type="checkbox"/> |
| (Swerving)                              | (Playing out)                         | (Feeble)                               |
| 7. Kathithal <input type="checkbox"/>   | 8. Kuthithal <input type="checkbox"/> | 9. Thullal <input type="checkbox"/>    |

(Swelling)

(Jumping)

(Frisking)

10. Azhunthal

☐

11. Padutthal

☐

12. Kalatthal

(Drowning)

(Lying)

(Blending)

13. Suzhalal

☐

(Revolving)

**(b) Naadi nadai (Pulse Play)**

1. Vali

☐

2. Vali Azhal

☐

3. Vali Iyyam

☐

4. Azhal

☐

5. Azhal Vali

☐

6. Azhal Iyyami

☐

7. Iyyam

☐

8. Iyya vali

☐

9. Iyya Azhal

☐

10. Mukkutram

☐

**II. NAA (TONGUE)**

1. MaaPadithal

Present

☐

Absent

☐

Normal

☐

Abnormal

☐

A) Pattern of MaaPadithal

Uniform

☐

Patchy

☐

B) Colour of MaaPadithal

\_\_\_\_\_

2. Naavin Niram

1. Karuppu

☐

2. Manjal

☐

3. Velluppu

☐

\_\_\_\_\_

(Colour)

(Dark)

(Yellow)

(Pale)

3. Suvai (Taste sensation)

Thani suvai

1. Kaippu

☐

2. Pulippu

☐

3. Inippu

☐

(Bitter)

(Sour)

(Sweet)



Thontha suvai 4. Uppu ☐ . Kaarppu ☐ Thuvarppu ☐

(Salt) (Pungent) (Astringent)

4. Vedippu 1. Present ☐ 2. Absent ☐ \_\_\_\_\_

(Fissure)

5. Vaai neer oorai 1. Normal ☐ 2. Increased ☐ 3. Reduced ☐

(Salivation)

Colour : Normal (Colourless) ☐ Abnormal ☐ \_\_\_\_\_

6. Deviation 1. Present 2. Absent \_\_\_\_\_

7. Pigmentation 1. Present ☐ 2. Absent ☐

Dot ☐ Patchy ☐ \_\_\_\_\_

Area of Pigmentation :



Tip



Sides



Root



Whole

### III. NIRAM (COLOUR and COMPLEXION OF SKIN)

1. IyalbanaNiram : 1. Karuppu ☐ . Manjal ☐ Velluppu ☐  
(Physiological) (Dark) (Yellowish) (Fair)

2. Nirammaatram 1. Present ☐ 2. Absent ☐

Localised ☐ Generalised ☐

Colour: Black \_\_\_\_\_ Brown \_\_\_\_\_ White \_\_\_\_\_ Red \_\_\_\_\_ Orange \_\_\_\_\_

#### IV. MOZHI (VOICE)

1. Sama oli ☐ 2. Urattha oli ☐ 3. Thazhantha oli ☐  
(Medium pitched) (High pitched) (Low pitched)
4. Sound from lungs ☐ (Sound is produced by the lungs when the  
(Wheezing) Patient is silent)

#### V. VIZHI (EYES)

1. Niram R L
- a). Venvizhi Normal ☐ Abnormal ☐ Normal ☐ Abnormal ☐
- |                 |                                  |                                 |                          |
|-----------------|----------------------------------|---------------------------------|--------------------------|
| 1. Manjal       | <input type="checkbox"/>         | 1. Manjal                       | <input type="checkbox"/> |
| 2. Sivappu      | <input type="checkbox"/>         | 2. Sivappu                      | <input type="checkbox"/> |
| 3. Velluppu     | <input type="checkbox"/>         | 3. Velluppu                     | <input type="checkbox"/> |
| 4. Pazhupu      | <input type="checkbox"/>         | 4. Pazhupu                      | <input type="checkbox"/> |
| 5. Karuppu      | <input type="checkbox"/>         | 5. Karuppu                      | <input type="checkbox"/> |
| a.1). Red Lines | Present <input type="checkbox"/> | Absent <input type="checkbox"/> |                          |
- b) Keel Imai Neeki Paarthal
- |                                    |                                      |       |
|------------------------------------|--------------------------------------|-------|
| 1. Sivapu <input type="checkbox"/> | 2. Velluppu <input type="checkbox"/> | _____ |
| (Red)                              | (Pale)                               |       |
2. Neerthuvam 1. Normal ☐ 2. Increased ☐ 3. Reduced ☐  
(Moisture)
3. Erichchal 1. Present ☐ 2. Absent ☐  
(Burning sensation)
4. Peelaiseruthal 1. Present ☐ 2. Absent ☐  
(Mucus excrements)
5. Change in vision 1. Present ☐ 2. Absent ☐ \_\_\_\_\_
6. Protrusion of eye ball 1. Present ☐ 2. Absent ☐ \_\_\_\_\_
7. Any other eye disease \_\_\_\_\_

## VI. MEI KURI (PHYSICAL SIGNS)

### INSPECTION

1. Swelling                      1. Present ☐                      2. Absent ☐  
2. Any Colour Change      1. Present ☐                      2. Absent ☐  
3. Viyarvai                      1. Normal ☐      2. Increased ☐      3. Reduced ☐  
(Sweat)                      Place \_\_\_\_\_

### PALPATION

1. Thanmai                      1. Veppam ☐      2. Mitha Veppam ☐      3. Thatpam ☐  
(Warmth)                      (Mild)                      (Cold)  
2. Thoduvali                      1. Present ☐                      2. Absent ☐  
(Tenderness)  
3. Padhikapattaidathil Unarvu      1. Normal ☐      2. Abnormal ☐  
(Sensation)  
1. Erichal ☐      2. Arippu ☐                      3. Unarchiinmai ☐  
(Burning Sensation)      (Itching)                      (Loss of sensation)

## VII. MALAM (STOOLS)

1. Ennikai (No Of Times Passed) -      / Day  
  
2. Alavu                      a) Normal ☐      b) Increased ☐                      c) Decreased ☐  
(Quantity)  
3. Niram                      1. Karuppu ☐                      2. Manjal ☐  
(Color)                      (Black)                      (Yellowish)  
                                         3. Sivappu ☐                      4. Velluppu ☐  
                                         (Reddish)                      (Pale)

#### 4. Nature of stools

Bulky ☐ Leaned ☐ watery ☐

5. Sikkal /Solid 1. Present ☐ 2. Absent ☐

(Constipation)

6. Sirutthal 1. Present ☐ 2. Absent ☐

(Poorly formed stools)

#### 7. Kalichchal

a). Loose watery stools 1. Present ☐ 2. Absent ☐

b). Contents of stool

1. Digested food 1. Present ☐ 2. Absent ☐

2. Seetham 1. Present ☐ 2. Absent ☐

(Watery and mucoid excrements)

2.1. Colour of Seetham 1. Venmai ☐ 2. Manjal ☐

8. Thanmai 1. Normal (Mitham) ☐ 2. Vemmai ☐ 3. Seetham ☐

9. Stool passing with a) Mucous 1. Present ☐ 2. Absent ☐

b) Blood 1. Present ☐ 2. Absent ☐

10. History of habitual Constipation 1. Present ☐ 2. Absent ☐

### VIII. MOOTHIRAM (URINE)

#### (a) NEER KURI (PHYSICAL CHARACTERISTICS)

1. Niram (colour) Normal (Straw colour) ☐ Yellow ☐

Milky white ☐ Red ☐

2. Manam (odour) Yes (1) No (0)

2 ☐ ☐

Ammonical:

Fruity:

Blood Odour:

Pus:

☐☐☐☐☐☐

Others : \_\_\_\_\_

### 3. Edai:

#### a). Specific gravity

Normal ☐ \_\_\_\_\_ Increased ☐ \_\_\_\_\_ Reduced ☐ \_\_\_\_\_

### 4. Alavu (volume)

Yes

No

Normal (1.2-1.5 lt/day)

:

☐☐

Polyuria (>2lt/day)

:

☐☐

Oliguria (<500ml/day)

:

☐☐

Anuria

:

☐☐

Present

Absent

### 5. Nurai (froth)

:

☐☐

If froth present, colour of the froth : \_\_\_\_\_

### 6. Enjal (deposits):

☐☐

Yes

No

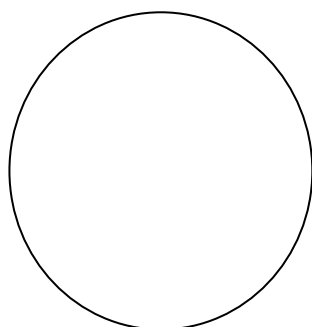
Clear

☐☐

Cloudy

☐☐

#### b) NEI KURI (oil spreading sign)



1. Aravam (V)

☐

2. Mothiram (P)

☐

(Serpentine fashion)

(Ring)

3. Muthu (K)

☐

4. AravilMothiram(VP)

☐

(Pearl beaded appear)

(Ring fashion in serpentine)

	5. AravilMuthu (VK) <input type="checkbox"/>	6. MothirathilMuthu (PK) <input type="checkbox"/>
	(Pearl fashion in serpentine)	(Pearl fashion in ring)
Diagram	7. MothirathilAravam(PV) <input type="checkbox"/>	8. MuthilAravam(KV) <input type="checkbox"/>
	(Serpentine fashion in ring)	(Serpentine fashion in pearl)
	9. MuthilMothiram(KP) <input type="checkbox"/>	10. Asathiyam <input type="checkbox"/>
	(Ring fashion in pearl)	(Incurable)
	11. Mellenaparaval <input type="checkbox"/>	12. others: _____
	(Slow spreading)	

**[2]. IYMPORIGAL /IYMPULANGAL (Penta sensors and its modalities)**

**1. Normal      2. Affected**

1. Mei (skin)	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Vaai (Tongue)	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Kann (Eye)	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Mookku (Nose)	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Sevi (Ear)	<input type="checkbox"/>	<input type="checkbox"/>	_____

**[3]. KANMENTHIRIYANGAL /KANMAVIDAYANGAL**

**(Motor machinery and its execution)**

**1. Normal      2. Affected**

1. Kai (Hand)	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Kaal (Leg)	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Vaai (Mouth)	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Eruvai (Anal canal)	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Karuvaai (Birth canal)	<input type="checkbox"/>	<input type="checkbox"/>	_____

#### [4]. YAKKAI (SOMATIC TYPES)

<b>Characters</b>	<b>Vatha Constitution</b>	<b>Pitha Constitution</b>	<b>Kaba Constitution</b>
Built and appearance	Lean and lanky, lengthy built	Moderate built	Short, uniform thickness, broad built.
Skin - colour & Complexion	Dark and light admixed complexion. Dry skin	Red and Yellow. Wrinkles and shiny	Yellowish White. Fleshy, flappy and shiny
Bones and Joints	Cracking sound of joints on walking with prominent joints	Thin covering of bones and joints by soft tissue	Plumpy joints and limbs
Hair and Eyelashes	Split hair and dark eyelashes	Sparse hair with graying	Dark and Dense hair
Appearance of Eyes	Lengthy Eyes	Easily suffusing eyes due to heat and alcohol	Sparkling eyes
Vision	Long sight	Short sight	Clear sight
Voice	Clear and high pitched voice	Clear and medium pitched Voice	Husky and unclear. Low pitched voice
Tongue	Lengthy, sharp ended tongue with black patches	Medium and yellow or red coloured	Blunt, thick tongue with white coated
Appetite	Scant appetite for cold food items	Increased appetite and intolerance to hunger, thirst, heat	Less appetite and tolerant to hunger, thirst, heat
Taste	Desire for pungent, salt, sweet, heat	Desire for bitter, sweet, astringent	Desire for sour, bitter, astringent
Sleep	Sleeping with half closed eyes	Medium sleep	Deep sleep
Dreams	Flying dreams around the hills, sky. Walking around the dense forest.	Seeing like yellow colour flowers, fire, sun, thunder etc.	Seeing the cooling places like lotus in the pond,.
Strength	Poor strength	Medium strength	Immense strength
Character	Unstable mind, change of mood according to situation	Medium. Discipline, Good habits, Eagerness	Stable mind. Discipline and increased knowledge

**RESULTANT SOMATIC TYPE:** \_\_\_\_\_

**[5] GUNAM**

1. SathuvaGunam

☐

2.RajoGuna

☐

3. ThamoGunam

☐

**[6] KOSAM**

**Normal (1)**

**Affected (0)**

1. Annamayakosam

☐
☐

\_\_\_\_\_

2. Praanamayakosam

☐
☐

\_\_\_\_\_

3. Manomayakosam

☐
☐

\_\_\_\_\_

4. Vingnanamayakosam

☐
☐

\_\_\_\_\_

5. Aanandamayakosam

☐
☐

\_\_\_\_\_

**[7] UYIR THATHUKKAL**

**A. VALI**

**Normal (1)**

**Affected (0)**

1. Uyirkaal

(Praanan)

☐
☐

\_\_\_\_\_

2. Keel nokungkaal

(Abaanan)

☐
☐

\_\_\_\_\_

3. Nadukkaal

(Samaanan)

☐
☐

\_\_\_\_\_



4. Mel nokungkaal (Udhanan)	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Paravungkaal (Viyaanan)	<input type="checkbox"/>	<input type="checkbox"/>	_____
6. Naahan (Higher intellectual function)	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____
7. Koorman (Air of yawning)			_____
8. Kirukaran (Air of salivation/ Nasal secretion)	<input type="checkbox"/>	<input type="checkbox"/>	_____
9. Devathathan (Air of laziness)	<input type="checkbox"/>	<input type="checkbox"/>	_____
10. Dhananjeyan (Absence of Praanan this air that acts on death)	<input type="checkbox"/>	<input type="checkbox"/>	_____

#### **B. AZHAL**

**Normal (1)**

**Affected (0)**

1. Analapittham (Gastric juice)	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Prasaka pittham (Bile)	<input type="checkbox"/>	<input type="checkbox"/>	_____

3. Ranjaka pittham (Haemoglobin)	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Aalosaka pittham (Aqueous Humour)	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Saathakapittham (Life energy)	<input type="checkbox"/>	<input type="checkbox"/>	_____

### C. IYYAM

**Normal (1)**

**Affected (0)**

1. Avalambagam (Serum)	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Kilethagam (saliva)	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Pothagam (lymph)	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Tharpagam (cerebrospinal fluid)	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Santhigam (Synovial fluid)	<input type="checkbox"/>	<input type="checkbox"/>	_____

## [8] UDAL THATHUKKAL

### A.SAARAM

INCREASED SAARAM (CHYLE)	DECREASED SAARAM(CHYLE)
Loss of appetite <input type="checkbox"/>	Loss weight <input type="checkbox"/>
Excessive salivation <input type="checkbox"/>	Tiredness <input type="checkbox"/>
Loss of perseverance <input type="checkbox"/>	Dryness of the skin <input type="checkbox"/>
Excessive heaviness <input type="checkbox"/>	Diminished activity of the <input type="checkbox"/>
<input type="checkbox"/>	sense organs
White musculature <input type="checkbox"/>	
Cough, dyspnoea, excessive sleep <input type="checkbox"/>	
Weakness in all joints of the body	

SAARAM: NORMAL ☐ INCREASED ☐ DECREASED ☐

### B. CENNEER:

INCREASED CENNEER(BLOOD)	DECREASED CENNEER(BLOOD)
Boils in different parts of the <input type="checkbox"/>	
body	Anemia <input type="checkbox"/>
Anorexia <input type="checkbox"/>	
	Tiredness <input type="checkbox"/>
Mental disorder <input type="checkbox"/>	
	Neuritis <input type="checkbox"/>
Splenomegaly <input type="checkbox"/>	

Colic pain	<input type="checkbox"/>	Lassitude	<input type="checkbox"/>
Increased pressure	<input type="checkbox"/>	Pallor of the body	<input type="checkbox"/>
Reddish eye and skin	<input type="checkbox"/>		
Jaundice	<input type="checkbox"/>		
Haematuria	<input type="checkbox"/>		

CENNEER: NORMAL ☐ INCREASED ☐ REDUCED ☐

[C]. OON

INCREASED OON (MUSLE)	DECREASED OON (MUSLE)
Cervical lymphadenitis <input type="checkbox"/>	Impairment of sense organs <input type="checkbox"/>
Venereal ulcer <input type="checkbox"/>	Joint pain <input type="checkbox"/>
Swelling in face ,abdomen, thigh, genitalia <input type="checkbox"/>	Muscles of Jaw, gluteus gets wrinkled. <input type="checkbox"/>
Hyper muscular in the cervical region <input type="checkbox"/>	Shortening of male genitalia <input type="checkbox"/>

OON: NORMAL ☐ INCREASED ☐ REDUCED ☐

## D. KOZHUPPU

INCREASED KOZHUPPU (ADIPOSE TISSUE)	DECREASED KOZHUPPU (ADIPOSE TISSUE)
<p>Cervical lymph adenitis <input type="checkbox"/></p> <p>Venereal ulcer <input type="checkbox"/></p> <p>Swelling in face, abdomen, thigh, genitalia</p> <p>Hyper muscular in the cervical region <input type="checkbox"/></p> <p>Dyspnoea on mild exhaustion <input type="checkbox"/></p> <p>Tiredness <input type="checkbox"/></p> <p>Sagging muscles in the gluteus, abdomen, thigh, breast <input type="checkbox"/></p>	<p>Pain and weakness in the hip region <input type="checkbox"/></p> <p>Disease of the spleen <input type="checkbox"/></p> <p>Emaciation <input type="checkbox"/></p>

KOZHUPPU: NORMAL ☐ INCREASED ☐ REDUCED ☐

## E. ENBU

INCREASED ENBU (BONE)	DECREASED ENBU (BONE)
Excess growth in bones teeth, Nail and Hair <input type="checkbox"/>	Joint pain <input type="checkbox"/>
	Loosening of teeth <input type="checkbox"/>
	Splitting of nail and hair <input type="checkbox"/>
	Falling of hair <input type="checkbox"/>

ENBU: NORMAL ☐ INCREASED ☐ REDUCED ☐

## F. MOOLAI

INCREASED MOOLAI (BONE MARROW)	DECREASED MOOLAI (BONE MARROW)
Heaviness of the body <input type="checkbox"/>	Osteoporosis <input type="checkbox"/>
Swollen eyes <input type="checkbox"/>	Blackout of the eyes <input type="checkbox"/>
Swollen phalanges chubby fingers <input type="checkbox"/>	
Oliguria <input type="checkbox"/>	
Non healing ulcer <input type="checkbox"/>	

MOOLAI: NORMAL ☐ INCREASED ☐ REDUCED ☐

## G. SUKKILAM/SURONITHAM

INCREASED SUKKILAM/SURONITHAM (SPERM OR OVUM)	DECREASED SUKKILAM/SURONITHAM (SPERM OR OVUM)
Infatuation and lust towards women / men <input type="checkbox"/>	Failure to give child birth <input type="checkbox"/>
Urinary calculi <input type="checkbox"/>	Pain in the genitalia <input type="checkbox"/>
	Decreased the semen excretion <input type="checkbox"/>

### SUKKILAM/ SURONITHAM:

NORMAL ☐ INCREASED ☐ REDUCED ☐

## [9] MUKKUTRA MIGU GUNAM

I. Vali Migu Gunam	1. Present	2. Absent
1. Emaciation	<input type="checkbox"/>	<input type="checkbox"/>
2. Blackish colour	<input type="checkbox"/>	<input type="checkbox"/>
3. Desire to take hot food	<input type="checkbox"/>	<input type="checkbox"/>
4. Shivering of body	<input type="checkbox"/>	<input type="checkbox"/>
5. Abdominal distension	<input type="checkbox"/>	<input type="checkbox"/>
6. Constipation	<input type="checkbox"/>	<input type="checkbox"/>
7. Insomnia	<input type="checkbox"/>	<input type="checkbox"/>
8. General Weakness	<input type="checkbox"/>	<input type="checkbox"/>
9. Defect of sense organs	<input type="checkbox"/>	<input type="checkbox"/>
10. Giddiness	<input type="checkbox"/>	<input type="checkbox"/>
11. Lack of interest	<input type="checkbox"/>	<input type="checkbox"/>

**II. Pitham Migu Gunam****1. Present****2. Absent**

1. Yellowish discolouration of skin

☐☐

2. Yellowish discolouration of the eye

☐☐

3. Yellow coloured urine

☐☐

4. Yellowish of faeces

☐☐

5. Increased appetite

☐☐

6. Increased thirst

☐☐7. Burning sensation over the body,  
palm and sole☐☐

8. Sleep disturbance

☐☐**III. Kapham migu gunam****1. Present****2. Absent****1. Increased salivary secretion**☐☐**2. Reduced activeness**☐☐**3. Heaviness of the body**☐☐**1. Pale, white, pinkish colour**☐☐



**5. Chillness of the body**

☐☐

**6. Reduced appetite**

☐☐

**7. Eraippu**

☐☐

**8. Increased sleep**

☐☐

**[10]. NOIUTRA KALAM**

1. Kaarkaalam

☐

2. Koothirkaalam

☐

(Aug15-Oct14)

(Oct15-Dec14)

3. Munpanikaalam

☐

4. Pinpanikaalam

☐

(Dec15-Feb14)

(Feb15-Apr14)

5. Ilavanirkaalam

☐

6. Muthuvenirkaalam

☐

(Apr15-June14)

(June15-Aug14)

**[11]. NOI UTRA NILAM**

1. Kurunji

☐

2. Mullai

☐

3. Marutham

☐

(Hilly terrain)

(Forest range)

(Plains)

4. Neithal

☐

5. Paalai

☐

(Coastal belt)

(Desert)

## ஐம்புள் நூல்வழி நோய்க்கணிப்பு படிவம்

பயனாளியின் பெயர் :  
 பயனாளி வந்த கிழமை :  
 பயனாளி வந்த நேரம் : பகல்/இரவு  
 வந்த நேரத்தில் பிறை சுற்று : வளர்பிறை/தேய்பிறை

### நோய்க் கணிப்பு

1. அ. பயனாளி வந்த நேரத்ததை வைத்து பஞ்சபூத தொழில் திறனை கணித்தல்  
 வளர்/தேய்/பகல்/இரவு சூத்திர எண்:

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- ஆ. வளர்/தேய்/பகல்/இரவு பறவை வரிசை சூத்திர எண்:

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- இ. தொழில்திறன் வகைப்பாடு:

புறவை	1ம் பொழுது	2ம் பொழுது	3ம் பொழுது	4ம் பொழுது	5ம் பொழுது

- ஈ. புறவைகளின் பூதயியல்பு:

வளர்/தேய்பிறை

வல்லூறு	ஆந்தை	காகம்	கோழி	மயில்

- ஊ. திறன் குறைந்த பறவை:

சாவு	துயில்

2. அ. பாதிக்கப்பட்ட பூதங்களின் ஆளுமை மண்டலம்

தொழில்	பூதம்	மண்டலம்	மண்டலங்களின் ஆளுமை செயல்
சாவு			
துயில்			

ஆ. பாதிக்கப்பட்ட மண்டலங்களில் பூத இயல்பு குறைவதால் வரும் நோய்

மண்டலம்	நோய்

3. பூதங்களின் இணைப்பு விதி (பஞ்சீபகரணம்)

+	=	+	=
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திறன் குறைந்த பூத இயல்பு :

திறன் பூதத்தால் பாதிக்கப்பட்ட மண்டலம் :

நோய்க்கணிப்பில் இறுதி நிலை

திறன் பாதிக்கப்பட்ட மண்டலத்தில் வரும் நோய்கள்:

.....

**FORM-III**

**GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL, PALAYAMKOTTAI**

**DEPARTMENT OF NOI NAADAL**

**A CLINICAL STUDY ON STANDARDIZATION OF SIDDHA DIAGNOSTIC METHODOLOGY,  
LINE OF TREATMENT AND DIETARY REGIMEN FOR**

**“ATHITHOOLA ROGAM” (OBESITY)**

**LABORATORY INVESTIGATIONS**

1. Serial No\_\_\_\_\_ O.P No: \_\_\_\_\_ Lab. No\_\_\_\_\_

2. Name: \_\_\_\_\_

3. Date of birth:                      

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                                                 D   D                      M   M                      Y   E   A   R

4. Age: \_\_\_\_\_ years

5. Date of assessment: \_\_\_\_\_

6. Urine Examination

Routine\_\_\_\_\_ Microscopic\_\_\_\_\_

7. Stool examination

Routine \_\_\_\_\_ Microscopic\_\_\_\_\_

8. Ova/Cyst \_\_\_\_\_ Occult Blood\_\_\_\_\_

9. TC (Cells/Cmm.)\_\_\_\_\_

10.DC: P (%) \_\_\_\_\_ L (%) \_\_\_\_\_ E (%) \_\_\_\_\_ M (%) \_\_\_\_\_  
      B (%) \_\_\_\_\_

11.Hb (g/dl) \_\_\_\_\_

12.ESR (1st hour mm) \_\_\_\_\_

13.PCV (%) \_\_\_\_\_

14.Blood Sugar – PP (mg./dl) \_\_\_\_\_

15.S. Cholesterol (mg./dl) \_\_\_\_\_

16.HDL(mg./dl) \_\_\_\_\_

17.LDL (mg./dl) \_\_\_\_\_

18.S. Triglycerides (mg./dl) \_\_\_\_\_

19.B. Urea (mg./dl) \_\_\_\_\_

20.S. Creatinine (mg./dl) \_\_\_\_\_

21.E.C.G: [ 0 Month only] \_\_\_\_\_

22.X-ray Chest: [ 0 Month only] \_\_\_\_\_

23.T3: \_\_\_\_\_ T4 : \_\_\_\_\_ TSH: \_\_\_\_\_

24.Any other Remarks \_\_\_\_\_

Date: \_\_\_\_\_

Signature of the Investigator : \_\_\_\_\_

**GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL ,  
PALAYAMKOTTAI**

**DEPARTMENT OF NOI NAADAL**

**A CLINICAL STUDY ON STANDARDIZATION OF SIDDHA DIAGNOSTIC METHODOLOGY,  
LINE OF TREATMENT AND DIETARY REGIMEN FOR**

**“ATHITHOOLA ROGAM” (OBESITY)**

**Register No: 321315005 (2013-2016)**

**FORM IV A**

**INFORMED WRITTEN CONSENT FORM**

I .....exercising my free power of choice, hereby give my consent to be included as a subject in the diagnostic trial entitled A study on “ATHITHOOLA ROGAM”. I will be required to undergo all routine examinations. I may be asked to give urine and blood samples during the study.

I have been informed about the study to my satisfaction by the attending investigator and the purpose of this trial and the nature of study and the laboratory investigations. I also give my consent to publish my urine sample photographs in scientific conferences and reputed scientific journals for the betterment of clinical research.

I am also aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

Signature /thumb impression of the patient:

Date :

Name of the patient:

Signature of the investigator :

Date :

Head of the Department:

Date:

அரசுசித்தமருத்துவ கல்லூரி பாளையங்கோட்டை

பட்ட மேற்படிப்பு நோய்நாடல் துறை

பதிவுஎண்: 321315005(2013-2016)

ஒப்புதல் படிவம்

ஆய்வாளரால் சான்றளிக்கப்பட்டது

நான் இந்தஆய்வைகுறித்தஅனைத்துவிபரங்களையும் நோயாளிக்குபுரியும் வகையில் எடுத்துரைத்தேன் எனஉறுதியளிக்கிறேன்.

தேதி:

கையொப்பம்:

இடம்:

பெயர்:

நோயாளியின் ஒப்புதல்

நான் ----- என்னுடைய சுதந்திரமாக தேர்வு செய்யும் உரிமையைக் கொண்டு இங்கு தலைப்பிடப்பட்ட நோயை கணிப்பதற்கான மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும், மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின்போது காரணம் எதுவும் கூறாமல், எப்பொழுது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்து கொள்ளும் உரிமையை தெரிந்திருக்கின்றேன்.

தேதி:

கையொப்பம்:

இடம்:

பெயர்:

சாட்சிக்காரர்கையொப்பம்:

பெயர்:

உறுவுமுறை:

**GOVT SIDDHA MEDICAL COLLEGE &HOSPITAL,  
PALAYAMKOTTAI .**

**DEPARTMENT OF NOI NAADAL**

***A CLINICAL STUDY ON STANDARDIZATION OF SIDDHA DIAGNOSTIC METHODOLOGY,  
LINE OF TREATMENT AND DIETARY REGIMEN FOR***

**“ATHITHOOLA ROGAM” (OBESITY)**

**THROUGH SIDDHA PARAMETERS**

**FORM - IV-E**

**PATIENT INFORMATION SHEET**

**PURPOSE OF RESEARCH AND BENEFITS:**

The diagnostic research study in which your participation is proposed to assess the diagnostic methods in Siddha methodology in “**ATHI THOOLA ROGAM**” patients. It is expected that you would benefit from this study. Knowledge gained from this study would be of benefit to patients suffering from such conditions for the diagnosis and prognosis.

**STUDY PROCEDURE:**

You will be interviewed and examined as OP and IP patients at the study centre. At the first visit the physician will conduct a brief physical examination and assess the condition followed by Ennvagaithervu and routine blood and urine analysis. After matching the inclusion criteria you will be included in this study and you will be examined on the basis of Ennvagaithervu & Thekiyin Illakkanam.

**POSSIBLE RISK:**

During this study there may be a minimum pain to you while drawing blood sample.

**CONFIDENTIALITY:**

Your medical records will be treated with confidentiality and will be revealed only to other doctors / scientists. The results of this study may be published in a scientific journal, but you will not be identified by your name.



## **YOUR PARTICIPATION AND YOUR RIGHTS:**

Your participation in this study is voluntary and you may be withdrawn from this study anytime without having to give reasons for the same. You will be informed about the findings that occur during the study. If you do agree to take part in this study, your health record will need to be made available to the investigators. If you don't wish to participate at any stage, the level of care you receive will in no way be affected.

The Ethics committee cleared the study for undertaking at OPD and IPD, GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI. Should any question arise with regards to this study you contact following person.

**P.G scholar** : Dr.U.KAVITHA,

Department of PG Noi Naadal,

Govt. Siddha medical college and hospital ,

Palayamkottai - 627 002.

Email: vaishi117@gmail.com

Mobile no: 9788095655.

அரசு சித்தமருத்துவக் கல்லூரி,

பாளையங்கோட்டை

பட்டமேற்படிப்பு நோய்நாடல் துறை

நோயாளியின் தகவல் படிவம்

**ஆய்வின் நோக்கமும் பயனும்:**

தாங்கள் பங்கெடுத்துக் கொள்ளும் இவ்வாய்வு சித்த மருத்துவ முறையில் நோயை கணிப்பதற்கான ஓர் ஆய்வுமுறை. இவ்வாய்வு தங்களின் நோய்கணிப்பை பற்றியும் நாளுக்கு நாள் இருக்கும் நோயின் தன்மைபற்றியும் அறிய உதவும்.

**ஆய்வுமுறை:**

தாங்கள் நேர்காணல் மற்றும் பரிசோதனைகளின் மூலம் உள்நோயாளி, வெளிநோயாளி பிரிவில் ஆய்வு செய்யப்படுவீர்கள். முதல் நேர்காணலின்போது ஆய்வாளரால் உடல் பரிசோதனை, நாடி, நீர், மலம், மற்றும் இரத்த பரிசோதனை செய்து குறிப்பிட்ட குறிகுணங்கள் இருப்பின் இவ்வாய்விற்காக எடுத்துக் கொள்ளப்படுவீர்கள்.

**நேரும் உபாதைகள்:**

இவ்வாய்வில் இரத்த பரிசோதனைக்காக இரத்தம் எடுக்கும் போது சிறிது வலி ஏற்படலாம்.

**நம்பகத்தன்மை:**

தங்களின் மருத்துவ ஆவணங்கள் அனைத்தும் மருத்துவர் ஆய்வாளர் அல்லாத பிறரிடம் தெரிவிக்கப்பட மாட்டாது.

**நோயாளியின் பங்களிப்பும் உரிமைகளும்:**

இவ்வாய்வில் தங்களின் பங்களிப்பு தன்னிச்சையானது. இவ்வாய்வில் தாங்கள் ஒத்துழைக்க இயலவில்லையெனில் எப்பொழுது வேண்டுமானாலும் காரணம் எதுவும் கூறாமல் விலகிக் கொள்ளலாம். இவ்வாய்வின்போது அறியப்படும் தகவல்கள் தங்களுக்கு தெரிவிக்கப்படும். நோயாளியின் ஒப்பதலுக்கிணங்க நோய்கணிப்பு விவரங்களை ஆய்வாளர் பயன்படுத்திக் கொள்வார். நோயாளி ஆய்வினிடையே ஒத்துழைக்க மறுத்தாலும், எந்தநிலையிலும் நோயாளியை கவனிக்கும் விதம் பாதிக்கப்படமாட்டது. நிறுவன நெறிமுறை குழுமம் மேற்கண்ட ஆய்வினை மேற்கொள்ள ஒப்புதல் அளித்துள்ளது. ஆய்வுகுறித்த சந்தேகங்கள் இருப்பின் கீழ்க்கண்டநபரை தொடர்பு கொள்ளவும்.

**பட்டமேற்படிப்பாளர்:**

மரு. உ. கவிதா,

அரசுசித்தமருத்துவக் கல்லூரி,

பாளையங்கோட்டை.

மின் அஞ்சல் : vaishi117@gmail.com

அலைபேசிஎண்: 9788095655